IX. THE BIRDS OF ERIE AND PRESQUE ISLE, ERIE COUNTY, PENNSYLVANIA.

By W. E. Clyde Todd.

Introductory Note.

Soon after the writer's purpose to prepare a comprehensive work on the birds of Western Pennsylvania had assumed definite form and shape, now almost ten years ago, it became evident that such a work would be far from complete should it not include the results of a special investigation of the avifauna of that portion of the State bordering upon Lake Erie. Not only were many species of water birds, not to be found elsewhere in western Pennsylvania, reported from that locality, but the influence of the lake, as a factor affecting the distribution of bird-life, seemed also to demand study. Hence the project was early formed of spending an entire season at this point, but circumstances forebade the realization of the plan until the year 1900, when the writer, having meanwhile become identified with the Carnegie Museum of Pittsburgh, was able to carry out his long-cherished idea under the auspices of that institution. As an assistant on the expedition there was engaged Mr. Willis W. Worthington, of Shelter Island, New York, to whose ability as a collector and observer the success of the trip was in large measure due. Almost one thousand specimens were secured. The exact dates of our stay were: March 21–May 31, and August 20–November 20, thus covering both migration periods fairly well. In the spring our headquarters were rather inconveniently located in the city of Erie, but in the fall they were removed to a house-boat anchored in Misery Bay on the Peninsula, greatly facilitating field-work.

In view of the many interesting records that have been accumulated it has been thought best to publish the results of this trip in advance of the writer's general work on the birds of Western Pennsylvania, for which they were originally intended, the more so as the completion of the latter is apt to be delayed for some time The present paper, therefore, is based on the data secured in the season of 1900, but also includes all other available information upon the birds of this par-

ticular locality, so that it is a complete summary of our present knowledge of the subject. There have been utilized some notes made by the writer during other brief visits in 1893 (August 28-30), 1895 (June 17), 1899 (June 26–27), 1902 (December 9) and 1903 (August 22). To Mr. Ralph B. Simpson, of Warren, Pa., the writer is under obligations for the use of the notes made upon his various visits to Erie, as follows: September 5–19, 1900; April 24–27, September 25–27, November 17–23, 1902; April 13–16, November 10–14, 1903. Mr. Archie M. Howes, of Erie, has contributed some notes on the nesting of several species, and Mr. James Thompson, of the same place, has courteously supplied information in regard to certain specimens in his collection. The late Hon. George B. Sennett had made extensive observations on the avifauna of this section, but his note-books are not now to be found, and are thought to be lost. Their loss is a serious matter, made up only in small part by an examination of Mr. Sennett's collection of birds and a study of the records published at second-hand in Dr. B. H. Warren's "Birds of Pennsylvania." By far the most important contribution, however, has been by Mr. Samuel E. Bacon, of Erie, who has placed his notes on the birds of this region, covering the years 1888 to 1904 inclusive, at the writer's disposal. Although his object was nearly always the pursuit of game birds, and the notes gathered on the smaller species are necessarily of a fragmentary character, yet the data received from this source admirably supplement those obtained by our party in 1900, and have been extensively used in the preparation of the present report. Many specimens of Mr. Bacon's collecting are now in the Carnegie Museum, while some are deposited in the U. S. National Museum as a part of the collection of the Biological Survey. In addition to the original notes above enumerated, all the known published records referring to the birds of the locality under consideration have been collated, and the information contained incorporated with that from the various other sources.

Attention should be called to the fact that an intelligent understanding of the life and distribution of birds in the region of the Great Lakes will be only had when a thorough study has been made of other favorable localities along their shores. The data at present available are too fragmentary, scattered, and indefinite to permit of proper correlation. The few local lists that have appeared are generally inadequate and disappointing, and for many places of probable interest no data are available. In the case of Lake Erie, for example,

a study of the birds of Long Point, on the Canadian shore opposite Presque Isle, would be a most welcome contribution to the general subject, and would afford a basis for a comparison that could not be otherwise than interesting and instructive.

In the present list, for the sake of uniformity, the nomenclature and sequence of species given in the "Check-List of North American Birds," published by the American Ornithologists' Union, have been followed, with, however, a few lately published changes which have been proposed, but not yet formally accepted. Species whose occurrence is to be expected, but which have not been actually recorded, are included in their proper places, enclosed in brackets, usually with a brief statement of their extralimital records and with the proper references.

Acknowledgments are due to all the parties above named as having contributed notes for use in the present connection, and also to Mrs. George B. Sennett, for permission to consult the collection of her late husband;[1] to Dr. J. A. Allen, for his courtesy in affording the necessary facilities for examining the same, and to Dr. A. K. Fisher and Mr. Harry C. Oberholser for assistance in preparing the bibliographical list and in identifying certain species.

General Introduction.

Erie County occupies the extreme northwestern corner of Pennsylvania, giving the State a northern frontage on Lake Erie of more than forty miles, beginning at the Ohio line near its intersection with the parallel of forty-two degrees north latitude, and extending in an approximately east-northeastern direction to the New York boundary. Its area is about seven hundred and seventy square miles, mainly devoted to agricultural pursuits, comprising as it does some of the best farming country in the western part of the State. Erie is the county seat and chief city, with a population (in 1900) of almost fifty-three thousand inhabitants. Manufactures of various kinds constitute the principal industries of the city, although there is also carried on a considerable commerce in lumber, grain, coal, and ore, chiefly with other cities on the Great Lakes. A capacious but shallow harbor is created by a strip of low-lying land forming the arc of a circle, and joined to the mainland at its western extremity, leaving an entrance on the east, now partially closed by an artificial breakwater. This strip of

[1] The bulk of this collection is deposited in the American Museum of Natural History at New York, but nearly all the mounted specimens were presented to the Carnegie Museum by Mr. Sennett a few years before his death.

land is known as Presque Isle, or the Peninsula, while the enclosed water is Presque Isle or Erie Bay — the former name in each case being a souvenir of the French occupation of this region.

The mean level of Lake Erie is five hundred and seventy-three feet above tide. Extending along the lake front is an almost level alluvial strip some two or three miles in width, which is known as the lake shore plain. It lies at an elevation above the lake of from one hundred to one hundred and sixty feet, most of which difference in level is represented by a steep bluff rising just back of the beach of the lake. The lake shore plain has a sandy soil, and is regarded as the best farming land in the county, hence its woodland has almost disappeared. It is in this cleared area, most of which is under cultivation, or given over to grazing, that such birds as are partial to open country find their most congenial haunts. Scattered here and there, and particularly on the slopes of the high ridge that limits the plain on the south, there yet remain some groves of hardwood timber, consisting largely of oak (*Quercus*, several species), chestnut (*Castanea dentata*), walnut (*Juglans nigra*), butternut (*Juglans cinerea*), beech (*Fagus atropunicea*), wild cherry (*Prunus serotina*), maple (*Acer rubrum*), hickory (*Hicoria spp.*), elm (*Ulmus Americana*), and cucumber-tree (*Magnolia acuminata*), and a great deal of second-growth poplar (*Populus sp.*). In many places the bluff facing the lake shore is covered with a rich woods composed largely of hemlock (*Tsuga Canadensis*), which growth often encroaches upon the adjacent level land, and may have originally covered much more of this area. In these woods are found several species of birds which have not been detected at all upon the Peninsula. A belt of swampy land about three-fourths of a mile wide formerly extended along the lake shore plain from the Ohio line to a point about twelve miles east of Erie. Even now, with drainage systems on every farm, there are still left considerable areas of marshy ground, with occasional scattered ponds, where ducks and other waterfowl sometimes alight, and rails and snipe are found in their season, and, indeed, in early times this strip was famous ground for these kinds of game birds.

South of the lake shore plain the country is much more heavily wooded, and doubtless the bird-life is correspondingly affected, but a discussion of this question does not come within the limits of the present paper. The ridge overlooking the plain is some four or five hundred feet above the level of the lake, and beyond this the land is of

a rolling character, culminating in a drainage divide averaging two hundred feet higher yet. From these highlands numerous small and a few larger streams, such as Elk, Walnut, and Mill Creeks, descend to Lake Erie, breaking through the intervening hills and the terrace formation in the lower portion of their courses, in a series of deep gorges or gullies, which are one of the most striking topographical features of this section. Mill Creek empties into Presque Isle Bay at Erie, and is utilized as one of the outlets of the sewage of the city. The marshes and mud-flats at its mouth constitute one of the best feeding-grounds in this whole region for many kinds of shore-birds and aquatic fowl during the season of migration. Being so near the docks and railroad yards, however, it is far from being a safe haven for the birds, and large numbers are often killed here by gunners; but if shooting were forbidden on these few acres it is probable that here, during the fall migration, more varieties of shore-birds could be seen than at any other one point in Pennsylvania.

The Peninsula has a roughly semicircular outline, about seven miles long in arc (measured on the outside) and five and one-half miles in chord. Near its western extremity and junction with the mainland (about two and one-half miles west of the city limits) — known locally as the "Head" — it is quite narrow, in some places an interval of less than one hundred yards separating the waters of the lake and bay. To the east, however, it gradually widens until it attains a breadth of one and one-fourth miles from shore to shore. An arm of Erie Bay, known as Misery Bay, occupies a rounded indentation just east of the widest part, the land curving around its eastern shore for some distance to the southward, terminating abruptly in an artificial pier along the channel leading from the lake, where are ranged the buildings belonging to the United States Lighthouse and Life-saving Station. The entire Peninsula is the property of the General Government, and the only other buildings upon it are those in connection with the lighthouse on its north shore, known locally as the "flash-light," but officially as "Presque Isle Light."

In a geological sense the Peninsula is merely an immense sand-bar, the manner of the formation of which may easily be traced, as all the various stages are represented. The action of the wind and waves has at intervals raised a bar parallel to the shore-line, with which, in course of time, it has become united at one or both ends, enclosing a pond, whose margins have gradually grown more and more marshy as the

general depth decreased with the filling up of the water area. The formation of these sand-bars is accelerated by the great storms which annually visit this region, by which sometimes the entire configuration of the shore is changed in a single day. At such times the level of Lake Erie may rise several feet, and in the overflow and recession of its waters there may be cut channels again connecting the newly formed pond with the larger body of water, which outlets may persist permanently. Moreover, there is a continual shifting movement of the loose sand going on in the direction of the prevailing westerly winds, so that there is a constant tendency toward contraction at the west and expansion at the east. Indeed, the western end of the lake beach of the Peninsula is much in need of protection, it having in several places been washed quite away, leaving large trees standing in the water twenty or thirty feet from shore.

To the combined and long-continued action of these various influences the peculiar topographical features of the Peninsula, as it is today, may be ascribed. It consists of a series of parallel wooded ridges, separated by comparatively shallow ponds or marshes, usually of complex structure. Its outer shore (facing the lake) is for its entire length a smooth sandy beach, referred to in the present paper as the "outside beach." This beach is widest towards the east, where it includes several unnamed ponds, back of which lies an extensive area of sand-dunes, covered with a scanty growth of grasses, herbage, and in places bushes of the wax-myrtle or bayberry (*Myrica Carolinensis*), and scattered low trees or shrubs of a species of poplar (*Populus deltoides*). There are a few ponds in this area also. Beginning about half a mile east of the flash-light, however, the slope of the outside beach is abruptly terminated by a low bluff to whose edge the wooded ridges extend, so that to the westward there are very few sand-dunes, such as have just been described. The ground of this kind gives way at length to the first of the ridges, which is characterized by irregular sand hills covered with tufts of coarse grass, and supporting poplar trees of considerable size, also many grape-vines (*Vitis sp.*), and south of this again there grows a variety of deciduous trees, with abundant undergrowth, before any of the larger ponds are reached.

Horseshoe Pond is the name given to an oval body of water occupying most of the extreme southeastern part of the Peninsula, near the Government buildings. It is the deepest of the ponds. Its shores are sandy save for a space along the western side, and it has (at present)

no permanent outlet, although originally connected with the channel at the pier. It would seem to be of comparatively recent formation. Northwest of Horseshoe Pond, after an interval of sand-dunes bearing poplar trees, and occupying the depression beyond the first wooded ridge, is Niagara or Lake Pond (Plate XVII), the outlet of which is into Misery Bay. It is divided into two main portions by a narrow tongue of land extending from the north, and its shores are everywhere marshy and fringed with a dense growth of aquatic plants. Yellow Bass Pond, opening also into Misery Bay by a tortuous channel, lies just beyond the intervening strip of woodland, and is very similar in character to Niagara Pond. It is succeeded in its turn by a long, narrow, shallow body of water known as Ridge, or Dead Pond, so called, perhaps, because during the summer months it largely dries up, as also do some of the other smaller ponds having no visible connection with the bay, which would indicate that they are mainly dependent on the rains for their water-supply. Ridge Pond is entirely enclosed by a dense growth of bushes, and along its southern margin there runs a board-walk connecting Presque Isle Light with the Government boat-house at the head of Misery Bay. Just west of this bay is Graveyard Pond, and beyond this again Big Pond (Plate XIX), which has, or had in 1900, an artificial outlet to the south. Big Pond, with its intricate system of arms and channels, is a veritable watery labyrinth. From it a narrow passage leads into Long Pond, the name of which suggests its shape. Long Pond is deeper than any of the other ponds except Horseshoe Pond, and its margins are not marshy to any extent, a dense growth of low bushes extending to the edge of the water in most places. West of Long Pond are two small ponds known as the Lily Ponds, closed in by dense shrubbery. The only other pond of importance in this connection is Cranberry Pond, a long, narrow, enclosed body of water lying between and parallel to Ridge and Long Ponds, south of the board-walk. In addition to those above mentioned, there are a number of smaller ponds, particularly in the western portion of the Peninsula, not dignified by special names, as well as areas of marshy savanna which were doubtless once open ponds, and have become filled up in the course of time. Nearly all the ponds have a thick layer of mud covering the sandy bottom, so that it is usually unsafe to attempt wading. At low water several of the ponds present muddy margins, which are very attractive to some species of shore-birds, but the "dead" ponds in the western part of the Penin-

sula are surrounded by a dense growth of bushes, which encroach upon the water to such an extent, that, even when the ponds are low, there is no beach exposed.

The vegetation of these various ponds and marshes is profuse indeed. Along their edges is a rank growth of rushes (*Juncus*), marsh grasses, arrow-leaf (*Sagittaria*), and cat-tail (*Typha latifolia*), giving way, in deeper water, to pondweed (*Potamogeton*), yellow water-lily (*Nymphæa variegata*), and others fully as characteristic. In Niagara, Yellow Bass, and Graveyard Ponds wild rice (*Zizania aquatica*) grows in abundance, and accordingly these are the favorite haunts of coots, rails, bitterns, and the like. The ducks would no doubt also relish the wild rice, but as they can be so readily approached when feeding among it, they soon learn that the more open ponds are safer, at least in the daytime. In the drier portions there are extensive areas of dense thicket, while the largest tracts of heavy timber are found on the higher ridges west of Big Pond (Plate XVIII). The surface of these ridges is very uneven, everywhere showing the peculiar sand-hill formation. Oaks of several species constitute perhaps the bulk of the forest, although there are considerable areas almost entirely given over to white pines (*Pinus Strobus*), the trees of which, although well developed, do not attain the height elsewhere observed.

Erie Bay, constituting the harbor of the city of Erie, is about four and one-half miles in length, with an average width of one and one-half miles. The channel giving entrance from the lake opens into its eastern end, between the pier at the Life-saving Station and the breakwater, built out from a point of land, known as the "sand-beach," just east of the mouth of Mill Creek. This is a favorite spot for shore-birds, as mentioned above. The shores of the bay are sandy for the most part, but the beach is by no means so wide as that along the outside shore, and much of it is littered over with driftwood. West of "Big Bend," however, there are extensive marshy areas, and the shallow water here is almost as good feeding-ground for the "pond ducks" as the ponds themselves. Here also at times of low water are extensive mud-flats, frequented by many species of waders. Except these marshes and the Mill Creek flats, the shore of the bay has no marsh or beach that would attract anything but a Spotted Sandpiper, and the same may be said of the whole lake shore of Erie County, exclusive, of course, of the Peninsula. The shallower parts of the bay support a number of aquatic plants in considerable abundance, among

which may be mentioned wild celery (*Vallisneria spiralis*), which is particularly in evidence about Crystal Point, at the entrance to Misery Bay.

The proximity of a large body of water such as Lake Erie necessarily exerts a marked influence upon the climate of the adjacent region. These climatic peculiarities were described in detail many years ago by Dr. J. P. Kirtland (*American Journal Science and Arts*, Second Series, XIII., 1852, 215–219), with whose observations at Cleveland, Ohio, those of the writer agree so far as they go. In general, it may be said that the lake exerts a *tempering* effect upon the climate. As a rule, neither the cold of winter nor the heat of summer reach the extremes felt by localities south of the lake shore and removed from its influence. Moreover, on the other hand, the several seasons are successively later. During the winter Lake Erie is entirely frozen over, and the presence of such a vast quantity of ice, yielding as it does very slowly to the influence of returning warmth, absorbs the bulk of the atmospheric heat in the melting, and thus keeps the air cold and raw and the weather inclement until the completion of the process. So long, therefore, as there remain any considerable bodies of ice on the lake, spring will make but little advancement, but "no sooner do they disappear than spring sets in with a reality, and vegetation puts forth with *sub-arctic* rapidity." Thus, in the season of 1900, the spring seemed to the writer, accustomed to a locality only a hundred miles to the south, exceedingly cold and backward (May 23 having been the first moderate day), yet it would seem that this particular season was not exceptional in this respect. Then, too, the hot weather persists much longer in the fall, and killing frosts are usually later by a month or more, than in the region just to the south. Indeed, the woodland, shrubbery, and most of the herbage on the Peninsula presented almost as green and fresh an appearance the first week in November, 1900, as in September along the Ohio River, while the first destructive frost did not come until November 14. Previous to this date, however, snow could be seen covering the high ridge south of the lake shore plain, and the foregoing remarks are evidently applicable only to the narrow strip of comparatively low land contiguous to the lake.

In spite of these peculiar climatic conditions, the dates of the migration of birds seem not to be appreciably affected thereby, correspond ing very closely to similar dates from adjacent regions. The only

exception to this statement is in the case of certain waterfowl, the length of whose stay in the fall is largely dependent upon the prevalence of open water. The trend of the migration at this point is not exactly clear, and whether birds follow the shore of the lake until they come to a convenient crossing-place at its extremity, or boldly adventure themselves in direct flight across its expanse, is not with certainty known. There are, however, indications that the latter route is sometimes followed, not only by some of the water birds, to many of which a flight over water is devoid of risk, but by certain of the smaller land birds as well. Flocks of some species have repeatedly been seen, supposedly in direct migration, flying out to the open lake or coming from that direction. As Long Point is the nearest land on the Ontario side, and is directly opposite Presque Isle, the inference that this was the starting-point or destination of such flights seems not unreasonable. On several occasions small land birds were picked up dead on the lake shore, leading to the inference that they had attempted the direct flight and had failed. Another circumstance worthy of mention in this connection is the greater abundance of the smaller land birds in spring migration at the *eastern* end of the Peninsula. It is as if they congregated here in their passage along the coast before their flight across the lake. It is noticeable, too, that in the fall the shore-birds are met with first on the most northerly part of the outside beach, which they would naturally strike first in coming directly across the lake, thence crossing at the piers to the sand-beach on the mainland shore, or flying to the ponds and other points on the Peninsula. The keeper of Presque Isle Light says that birds do not strike the lantern there, save on very thick and foggy nights, and that the number so killed in the course of a season is inconsiderable.

In the nature of the case the locality under consideration is perhaps the most favorable in the entire State of Pennsylvania for the study of water birds. Quite a number of such occur here which have not been detected in the interior counties, while among the land birds not a few are far more abundant and characteristic. Were it not for the proximity of such a large city, Presque Isle would doubtless be an ideal spot for birds of almost all kinds, and many species the appearance of which is at present rare and irregular would be much more numerous. The persecution to which the birds of this locality are constantly subjected by the hordes of gunners from Erie has resulted in a great reduction in their numbers as compared with former years, and not a

few species which were once common are now rarely seen. Although the Peninsula is government property, and as such is carefully protected from other forms of vandalism, there is absolutely no restriction placed upon the extermination of its feathered inhabitants. The place is overrun with pot-hunters, market-gunners, and irresponsible sportsmen, who keep the game constantly stirred up, and whose pernicious activity has resulted in driving away not only many species which are considered legitimate objects of pursuit, but also numerous other kinds, which, if not valuable for economic or æsthetic reasons, are at least harmless. Immense bags of wild-fowl and shore-birds are sometimes made by ignorant and conscienceless gunners, actuated by greed of gain, or merely by the desire to kill, and the game-laws are being constantly violated. Of course, such slaughter, all too common as it is throughout the country, will eventually render its own continuance impossible. In the present case the abolition of spring shooting, which would require for its consummation a legislative enactment, would most certainly inure to the limitation of this destruction. A restriction upon the number of birds which one person may kill in a day would tend in the same direction. The prohibition of all shooting, or, if need be, of all trespassing, upon the Peninsula and its adjacent waters, would be a most effectual measure. There is no reason why various species of ducks and other water-birds should not breed about the ponds and marshes of Presque Isle; the conditions, all save that of insufficient protection, are unaltered from former years, when such was regularly the case. Finally, the strict enforcement of the game-laws and the education of public sentiment would be of inestimable advantage, and might yet avail to prevent the threatened extermination of some forms of bird-life at this interesting locality.

In the present connection some general observations on the avifauna of Erie contributed by Mr. Samuel E. Bacon, a conscientious observer, whose extensive experience adds value to his statements, are of such interest that they are deemed worthy of insertion. "As regards the relative abundance of birds now (1903) as compared with 1888, when I first began taking notes, I hardly know what to say. I certainly think that the song-birds have held their own. The birds of prey seem to have sadly diminished. Ten or fifteen years ago the first mild days in spring used to bring hawks by the hundreds, but of late years it is seldom that more than a pair are in sight at once. A

decrease is noticeable, too, in the numbers of ducks and waders, but I think that the curtailing of their feeding-grounds and the continual persecution to which they are subjected from the moment of their arrival has led them to seek more secluded localities. In October, 1901, there was an almost unprecedented flight of 'pond-ducks' (*Anatinæ*), and in some cases bags of thirty, forty, and even fifty birds were made. I saw a bag of forty-two (mostly Mallards) killed on the morning of October 17 by two gunners. This hardly looks as though the ducks were a thing of the past, and yet the next season there may be no shooting of any consequence. Presque Isle Bay is the only feeding-ground of any size for many miles on the south side of Lake Erie, but with sixty thousand people living right at its shore, the ducks have little chance to feed. The shallow water species, such as the Mallard, Black Duck, Teal, Widgeon, Wood Duck, Pintail, and Hooded Merganser are found in the ponds and along the bay shore of the western portion of the Peninsula. These kinds, particularly the Mallard, when persistently hunted, will fly out into the middle of the bay to spend the day, returning at dusk to the ponds, where I have watched them feeding in the moonlight. The Scaups, Redheads, Golden-eyes, Buffleheads, Scoters, Long-tailed Ducks, and Red-breasted Mergansers are found in the deeper waters of the bay, or rather would be found there if unmolested, but, so accustomed have they become to being disturbed, that daylight generally sees them on the move for the main lake, where, if it is not too rough, they spend the day, returning to the bay about dusk. This is of course not the invariable rule for all the deep water ducks, for some stay on the bay in spite of the gunners, and some species would no doubt go to the lake to feed in any case. In flying to and from the lake the ducks either cross the narrow neck of the Peninsula to the west, or go over the breakwater pier at the eastern end of the bay, which place has been a famous ducking point in years past.

"The shore-birds would seem to have fallen off considerably in numbers in the last six years, but in this period there has been very little low water, and the flats at the mouth of Mill Creek have grown up with weeds to such an extent that their favorite feeding-grounds are greatly diminished. Many species have seemed to be almost if not quite unrepresented of late years. The fall flight of Red-backed Sandpipers was formerly looked forward to as being as certain as the close of navigation, yet there has been no flight of these birds since

1897, and that was a small one, a few hundred birds in all. The Pectoral Sandpiper was practically not represented in the migrations of 1900, but the following year it was found in small numbers. The White-rumped and Stilt Sandpipers, the Knot, Red-breasted Snipe, Hudsonian Curlew, and Northern Phalarope ought, in my judgment, to occur here regularly, but certain it is that we get very few shore-birds, other than Yellow-legs (both species), Semipalmated Plover, Killdeer, Least and Semipalmated Sandpipers, Sanderlings, and an occasional Black-bellied and Golden Plover. I hope that the decrease apparent in water-birds of nearly all kinds merely means that they are migrating by safer routes, but I fear that what I have noted at Erie is but a fair sample of what has been observed throughout the country."

Two hundred and thirty-seven species of birds have been recorded from the region of which this paper treats — a larger number than have been observed in any other area of similar size in the western part of Pennsylvania, and the list is still obviously far from complete. Moreover, it is evident that further observations would add largely to the notes on the seasonal occurrence and abundance of many of the less common species. Considerable difficulty has been encountered in attempting to classify the various components of the avifauna according to their seasonal status, as in some cases such is uncertain or indeterminate, and the lists that follow must be regarded as provisional only, and subject to modification in the future.

Eighteen species are to be classed as permanent residents, two of them doubtfully, as their occurrence throughout the year is inferred rather than known. They are:

Colinus virginianus,
Bonasa umbellus,
Nyctalops wilsonianus,
Syrnium varium,
Cryptoglaux acadica,
Otus asio,
Asio magellanicus virginianus,
Dryobates villosus,
Dryobates pubescens medianus,
? *Centurus carolinus*,
Otocoris alpestris praticola,
Cyanocitta cristata,
Astragalinus tristis,
Melospiza cinerea melodia,
? *Cardinalis cardinalis*,
Ampelis cedrorum,
Sitta carolinensis,
Parus atricapillus.

Eighty-eight species may be placed in the list of summer residents, and doubtless some listed as transients belong here also, as the locality is well within their known breeding range. On the other hand there

are a number, preceded by an asterisk in the subjoined list, which are far more common and characteristic during the migrations than in the breeding season. Such species as occur occasionally in winter are marked with a dagger, while several, as to whose breeding here there is still some doubt, are appropriately designated. They are :

* *Merganser serrator*,
Aix sponsa,
Botaurus lentiginosus,
Ardetta exilis,
Butorides virescens,
? *Nycticorax nycticorax nævius*,
* *Rallus virginianus*,
Porzana carolina,
Philohela minor,
* *Gallinago delicata*,
* *Helodromas solitarius*,
Bartramia longicauda,
Actitis macularia,
Oxyechus vociferus,
Ægialitis meloda circumcincta,
? *Ectopistes migratorius*,
† *Zenaidura macroura*,
Circus hudsonius,
? *Accipiter velox*,
? *Accipiter cooperii*,
Buteo borealis,
Buteo lineatus,
? *Buteo platypterus*,
Haliæetus leucocephalus,
Falco sparverius,
Coccyzus americanus,
Coccyzus erythrophthalmus,
† *Ceryle alcyon*,
† *Melanerpes erythrocephalus*,
† *Colaptes auratus*,
Antrostomus vociferus,
Chordeiles virginianus,
Chætura pelagica,
Trochilus colubris,
Tyrannus tyrannus,
Myiarchus crinitus,
Sayornis phœbe,
Horizopus virens,
Empidonax virescens,
Empidonax minimus,
† *Corvus brachyrhynchos*,
Dolichonyx oryzivorus,
Molothrus ater,
Agelaius phœniceus,
† *Sturnella magna*,
Icterus spurius,
Icterus galbula,
Quiscalus quiscula æneus,
Carpodacus purpureus,
Poœcetes gramineus,
? *Passerculus sandwichensis savanna*,
Coturniculus savannarum passerinus,
Spizella socialis,
Spizella pusilla,
Melospiza georgiana,
Pipilo erythrophthalmus,
Zamelodia ludoviciana,
Cyanospiza cyanea,
Spiza americana,
Piranga erythromelas,
Progne subis,
Petrochelidon lunifrons,
Hirundo erythrogaster,
* *Iridoprocne bicolor*,
Riparia riparia,
? *Stelgidopteryx serripennis*,

Lanius ludovicianus migrans,
Vireo olivaceus,
Vireo gilvus,
Vireo flavifrons,
Mniotilta varia,
? *Compsothlypis americana*,
Dendroica æstiva,
Dendroica pensylvanica,
Seiurus aurocapillus,
Geothlypis trichas brachidactyla,
Icteria virens,
Wilsonia mitrata,
Setophaga ruticilla,
Galeoscoptes carolinensis,
Toxostoma rufum,
Troglodytes ædon,
? *Cistothorus stellaris*,
Telmatodytes palustris,
Hylocichla mustelina,
Hylocichla fuscescens,
† *Merula migratoria*,
Sialia sialis.

The winter visitants number at least twenty-five species, some (*) of which, however, are much more numerous during the season of migration, while others (†) have not yet been actually found throughout the entire cold season, although their occurrence is in every way probable. They are as follows:

Larus argentatus,
* *Aythya vallisneria*,
* *Fuligula marila*,
Clangula clangula americana,
Oidemia deglandi,
Oidemia perspicillata,
† *Accipiter atricapillus*,
† *Archibuteo lagopus sancti-johannis*,
† *Scotiaptex nebulosa*,
Nyctea nyctea,
Otocoris alpestris,
Hesperiphona vespertina,
Pinicola enucleator leucura,
Loxia leucoptera,
Acanthis linaria,
† *Acanthis linaria rostrata*,
† *Spinus pinus*,
Passerina nivalis,
* *Calcarius lapponicus*,
Spizella monticola,
* *Junco hyemalis*,
Lanius borealis,
† *Dendroica coronata*,
* *Olbiorchilus hiemalis*,
† *Regulus satrapa*.

This gives a total of one hundred and six species for the breeding season and forty-three for the winter. To these are to be added ninety-five species best classed as transient visitants, although some of them, indicated by an asterisk, possibly breed occasionally, while others, marked by a dagger, are apt to occur in the winter season also.

† *Colymbus holbœllii*,
† *Colymbus auritus*,
Podilymbus podiceps,
Gavia imber,
Gavia lumme,
Larus delawarensis,
† *Larus philadelphia*,
Sterna caspia,

Sterna hirundo,
Hydrochelidon nigra surinamensis,
Phalacrocorax dilophus,
Merganser americanus,
Lophodytes cucullatus,
* *Anas boschas*,
† *Anas obscura*,
Chaulelasmus streperus,
Mareca americana,
Nettion carolinensis,
Querquedula discors,
Spatula clypeata,
Dafila acuta,
† *Aythya americana*,
† *Fuligula affinis*,
Fuligula collaris,
Charitonetta albeola,
† *Harelda hyemalis*,
† *Oidemia americana*,
Erismatura jamaicensis,
Branta canadensis,
Olor columbianus,
Ardea herodias,
Rallus elegans,
Porzana noveboracensis,
Gallinula galeata,
Fulica americana,
Crymophilus fulicarius,
Phalaropus lobatus,
Steganopus tricolor,
Macrorhamphus griseus,
Micropalama himantopus,
Tringa canutus,
Arquatella maritima,
Actodromas maculata,
Actodromas fuscicollis,
Actodromas bairdii,
Actodromas minutilla,
Pelidna alpina sakhalina,
Ereunetes pusillus,
Calidris arenaria,
Totanus melanoleucus,
Totanus flavipes,
Numenius hudsonicus,
Numenius borealis,
Squatarola squatarola,
Charadrius dominicus,
Ægialitis semipalmata,
Arenaria morinella,
Falco columbarius,
* *Pandion haliaëtus carolinensis*,
* *Nyctalops accipitrinus*,
Sphyrapicus varius,
Nuttallornis borealis,
Empidonax flaviventris,
Empidonax traillii alnorum,
Euphagus carolinus,
Ammodramus nelsoni,
Zonotrichia leucophrys,
Zonotrichia albicollis,
Passerella iliaca,
Vireo philadelphicus,
Vireo solitarius,
Helminthophila rubricapilla,
Helminthophila celata,
Helminthophila peregrina,
Dendroica tigrina,
Dendroica cærulescens,
* *Dendroica maculosa*,
Dendroica castanea,
Dendroica striata,
Dendroica blackburniæ,
* *Dendroica virens*,
Dendroica vigorsii,
Dendroica palmarum,
Seiurus noveboracensis,
Geothlypis agilis,

Geothlypis philadelphia,
Wilsonia pusilla,
Wilsonia canadensis,
Anthus pensilvanicus,
† *Certhia familiaris americana*,
Sitta canadensis,
Regulus calendula,
Hylocichla aliciæ,
Hylocichla ustulata swainsonii,
Hylocichla guttata pallasii.

There remain eleven species which it is perhaps best, on the whole, to assign to the class of accidental visitants, at least for the present:

Uria lomvia,
Stercorarius parasiticus,
Rissa tridactyla,
Pelecanus erythrorhynchos,
Somateria spectabilis,
Symphemia semipalmata,
Corvus corax principalis,
Xanthocephalus xanthocephalus,
Thryothorus ludovicianus,
Bæolophus bicolor,
Polioptila cærulea.

Among the one hundred and six species known or believed to breed in this locality there are none strictly referable to the Canadian Fauna, and but seven, *Centurus carolinus*, *Empidonax virescens*, *Cardinalis cardinalis*, *Spiza americana*, *Stelgidopteryx serripennis*, *Icteria virens*, and *Wilsonia mitrata*, which are Carolinian in their faunal affinities, and it is to be further noted that of these only two, *Empidonax virescens* and *Wilsonia mitrata*, appear to be at all common and regular during the breeding season. With these exceptions the species which are of value in predicating the faunal position of the locality are all more or less characteristic of the Alleghanian Fauna, either in their northward or southward dispersion in the breeding season. The local species which in their breeding range to the southward are limited to the Alleghanian Fauna are *Merganser serrator*, *Rallus virginianus*, *Porzana carolina*, *Ægialitis meloda circumcincta*, *Empidonax minimus*, *Dolichonyx oryzivorus*, *Carpodacus purpureus*, *Passerculus sandwichensis savanna*, *Melospiza georgiana*, *Zamelodia ludoviciana*, *Iridoprocne bicolor*, *Dendroica pensylvanica*, and *Hylocichla fuscescens*. The region under consideration may safely be considered as included within the Alleghanian Fauna, although with a slight admixture of the Carolinian element. It is to be regretted that a more extended study has not been made of the birds of the lake shore plain, as it would be interesting to know to what extent and why its avifauna differs from that of the north shore of Lake Erie, which is considered to be Carolinian in character throughout, and to carry that life-zone into western New York.

The area covered by the present paper comprises, besides the Peninsula and Presque Isle Bay, the lake shore plain and its environs within about four miles of the city of Erie. For the sake of completeness a few notes referring to other (Pennsylvania) localities on the lake have been included, as specifically stated under the head of the various species involved.

LIST OF SPECIES.

1. **Colymbus holbœllii.** HOLBŒLL'S GREBE; RED-NECKED GREBE.

A transient visitant, possibly also a winter resident, apparently of rare occurrence. A single female was shot November 17, 1900, in the channel near the Life-saving Station, and kindly presented to us by Mr. Frank Claus. In this specimen the red area of the throat was plainly indicated, the color being obscured by white — the mark of an adult bird. On November 26 a second specimen was secured by Mr. Claus, and on October 27, 1901, one was shot by a local gunner, both of which were immature birds, and are now in the Carnegie Museum. The most recent record refers to a pair taken February 13, 1904, at the mouth of Mill Creek, which specimens are also preserved in the Carnegie Museum.

2. **Colymbus auritus.** HORNED GREBE.

A regular migrant, quite common in the spring, and fairly abundant in the fall. At the former season (in 1900) it was first recorded on March 27, and none were noted after April 17. As a rule it was found in small parties, although on one occasion (April 2) a compact flock of a dozen was observed, which took wing upon pursuit in preference to attempting escape by diving, as is usual. Male specimens secured near the time of the vernal departure of the species were in almost perfect breeding dress, but those taken earlier in the season showed a considerable admixture of the light-colored feathers of the winter plumage. In the fall the earliest record was for October 23, when a small number were observed on the main lake, and from this time until our departure it was noted almost daily, occasionally off the outside beach, but most frequently on Erie Bay, and particularly Misery Bay, the sheltered situation of which offered peculiar attractions. There were days in November when from ten to twenty individuals could be counted at once, although they never drew together into a compact flock, and in their movements when feeding or when pursued seemed to be entirely independent of one another. At this

time of the year the birds were by no means shy, and were easily approached. Specimens in Mr. Sennett's collection taken October 22, 1875, and October 29, 1889, tend to confirm the date of arrival recorded by us in 1900. Regarding its time of departure, Mr. Bacon states that it remains until the bay freezes over (December 8, 1894; December 9, 1900), but ordinarily does not winter. One specimen shot January 10, 1901, and an emaciated specimen captured near a farmhouse, February 6, 1904, constitute exceptional records. The latest date in the spring migration appears to be April 24, 1902, when the species was recorded by Mr. Simpson. In former years it may even have bred in this locality, as it is known to do now at the St. Clair Flats, and formerly in northern Ohio, as recorded by Audubon (*Ornithological Biography*, III., 1835, 431) and Dr. F. W. Langdon (*Journal Cincinnati Society of Natural History*, III., 1880, 230).

3. **Podilymbus podiceps.** Pied-billed Grebe.

The present species, like the last, occurs only as a migrant in the spring and fall. Although reported to be regular in its appearance at the former season, it was apparently not common in the spring of 1900, having been noted on but three occasions — April 16, when a flock of five was seen in Big Pond, two of which were secured; April 17, when a few more were observed in the same pond; and April 23, when a single specimen was shot, also at the same place. Although the conditions are seemingly as favorable for the species nesting here as at other points along the shore of Lake Erie (*cf.* Langdon, *Journal Cincinnati Society of Natural History*, III., 1880, 231), diligent and repeated search in May failed to disclose the presence of even a single individual, nor has Mr. Bacon ever found it in the breeding season. However, he notes that it is among the first of the waterfowl to arrive in the fall, coming in August (August 26, 1892; August 8, 1903). In 1900 it was recorded in the fall migration as early as August 27, and may have been present previous to that date. A bird secured September 4 was in full summer plumage, but all others taken at this season were in winter or immature dress. The species seemed to increase in numbers up to the last week in September, when it was exceedingly abundant, not only in the various ponds, but also on the shallow parts of the bay, wherever there was an abundant growth of aquatic plants. While numbers were often seen together, it would appear that their association was the result of a common interest rather than of

a truly gregarious disposition. Unlike the Horned Grebe, none were seen on the main lake, while on the other hand none of that species were found in the ponds. At this time the birds were by no means shy, and being so constantly in evidence were the source of some trouble to the observer looking for other species. A decrease in their numbers was noticeable through October, becoming more marked as the Horned Grebe increased in abundance, while the last record was made on November 14, although the probabilities favor a somewhat later date as the actual time of final departure.

4. Gavia imber. LOON.

"A few of these birds are seen on the bay every spring and fall, but they are never common. I observed one individual as late as May 31 (1896), while September 25 (1894) is my earliest fall record" (Bacon). Mr. Simpson reports the species as having been observed in April and November of 1902 and 1903, and notes that a specimen, still in winter plumage, was shot at Crystal Point on April 25, 1902. Curiously enough, no Loons were seen in the spring of 1900 until May 4, when two individuals were observed flying over the bay together. In the fall the species was more numerous, arriving October 6, and was noted at intervals during that month and the next, single birds being recorded from the bay or lake. On November 12 a gunner picked up a Loon on the shore of Misery Bay near our houseboat, and brought it to us alive. It was practically helpless on the flat surface, but quite vicious, striking savagely with its powerful beak when teased, and uttering its peculiar reverberating cry. Upon skinning it proved to have been wounded and partially disabled. The last record was made on November 18, when one was seen on Misery Bay off Crystal Point, and watched for some time while feeding. It doubtless remains as long as there is open water in the bay. Occasionally one is caught in the fishermen's nets. A fine specimen in the Carnegie Museum, dated April 25, 1903, was taken in this way.

[*Gavia arctica*. BLACK-THROATED LOON.

Given by Mr. Lynds Jones (*Birds of Ohio*, 1903, 26) as a casual winter visitor in Ohio, where a number of specimens have been taken since that recorded by Dr. J. M. Wheaton, which was captured near Kelley's Island instead of on Sandusky Bay. This is a boreal species, seldom reaching the United States in its winter dispersion.]

5. Gavia lumme. RED-THROATED LOON.

Although Dr. Warren states (*Birds of Pennsylvania*, 1890, 8), presumably on Mr. Sennett's authority, that "this bird is often met with,

especially late in the autumn," at Erie, the evidence so far at hand does not admit of such a general statement as regards its abundance. It is to be classed as a transient visitant, of casual occurrence in the fall and early spring. In 1900 two specimens in immature dress were secured from local gunners, both shot on Erie Bay, on October 23 and November 19, respectively. A little later, on November 28, a third specimen was captured on the bay by a gunner. On February 16, 1904, three were shot in the channel at the Life-saving Station, and a single bird was killed at the docks on February 25 also, all but one of which are now in the Carnegie Museum. These seven examples are all that are certainly known from this locality.

6. **Uria lomvia.** Brünnich's Murre.

The month of December, 1896, was memorable for the appearance of this maritime species at many points far inland, as far west as Michigan and Indiana. The flight seems to have followed the basin of the Great Lakes, along which there are numerous records. Thus, specimens have been recorded from near Sandusky and Painesville, Ohio (Butler, *Auk*, XIV., 1897, 197–198; *id.*, *Birds of Indiana*, 1897, 566), taken December 19. With these occurrences the Erie records, here published for the first time, are in close accord. Mr. Bacon states that several were shot on the bay in December, 1896, and although he quotes no dates, the time of their capture is fairly well indicated by a specimen (labeled a female) in Mr. James Thompson's possession that is marked "December 18, 1896," by the party who mounted it. At least one other specimen from this flight was mounted by a local taxidermist, which bird is now in the Carnegie Museum. The species was not met with again until November 20, 1899, when a single bird was killed on the bay by a gunner, this specimen also eventually coming to the Carnegie Museum. In 1900 specimens were taken by gunners on November 27 and December 2, from which flight two specimens are known to have been preserved, one now in Mr. Bacon's collection, and the other in that of the Carnegie Museum. All the gunners who have met with birds of this species agree in stating that they were easily approached and killed.

[*Stercorarius pomarinus*. Pomarine Jaeger.

Of casual occurrence on Lake Erie, there being records for Cleveland (Wheaton, *Birds of Ohio*, 1882, 546), Sandusky (Cook, *Birds of Michigan*, 1893, 27), and Lorain (Jones, *Birds of Ohio*, 1903, 27).]

7. **Stercorarius parasiticus.** PARASITIC JAEGER.

An accidental visitant, of whose occurrence there is but one authentic record. This depends upon a specimen in Mr. Sennett's collection taken at the head of Erie Bay, October 15, 1874, by Mr. Merrick Low. Mr. Sennett's catalogue notes with reference to this specimen: "Bird very poor and quite exhausted. None ever noticed there before." Of interest in this connection there may be noted a few more recent records, from Lorain and Sandusky Bay, Ohio (Jones, *Birds of Ohio*, 1903, 27; Comstock, *Auk*, XIII., 1896, 171).

8. **Rissa tridactyla.** KITTIWAKE GULL.

Mr. Worthington, who is very familiar with this species elsewhere, saw and positively identified a single individual off the outside beach on October 17, 1900, but was unable to secure it. Dr. J. M. Wheaton states (*Birds of Ohio*, 1882, 550) that it is a "Very rare or accidental winter visitor on Lake Erie. Mr. Winslow notes the occurrence of three specimens in Cleveland harbor many years since." Future investigation, however, may perhaps show that this species is at least sparingly represented every winter on the lake, as indicated in the A. O. U. Check-List: "south in eastern North America in winter to the Great Lakes."

[*Larus glaucus*. GLAUCOUS GULL.

This large gull is to be looked for in winter. There are records from the Niagara River near Buffalo, January 29, 1895 (Savage, *Auk*, XII., 1895, 312), and from Indiana (Butler, *Birds of Indiana*, 1897, 570) and Michigan (Cook, *Birds of Michigan*, 1893, 27.)

Larus leucopterus. ICELAND GULL.

Another northern species, the casual occurrence of which in the winter may be expected, judging from the number of extralimital records. Dr. J. M. Wheaton (*Birds of Ohio*, 1882, 547), gives it as a "Rare winter visitor on Lake Erie. Mr. Winslow states that two or three specimens have been taken in Cleveland harbor." Mr. Lynds Jones mentions a specimen from Lorain, December 22, 1888 (*Birds of Ohio*, 1903, 28). Mr. E. W. Nelson (*Bulletin Essex Institute*, VIII., 1876, 145) considers it a "regular and not uncommon winter resident on Lake Michigan."

Larus marinus. GREAT BLACK-BACKED GULL.

In September, 1900, the writer repeatedly saw a single gull along the outside beach which is believed to have been of this species. It was so wary, however, that in no case could it be approached near enough to positively identify it. Moreover, this gull has been described by fishermen as being met with in early winter far out on the lake, where the tugs go to set the nets, and there would seem to be no reason to doubt the identification, inasmuch as there are numerous records for such near-by localities as Buffalo (Savage, *Auk*, XII., 1895, 312), and Cleveland (Wheaton, *Birds of Ohio*, 1882, 547).]

9. **Larus argentatus.** Herring Gull.

This gull is a regular winter resident in the vicinity of Erie, and it is certainly an abundant species during the migrations. A flock of a dozen individuals was observed March 21, 1900, at the mouth of Mill Creek, feeding in the only open water at that time on the bay. Before the end of the month their numbers had largely increased, but through April gradually diminished, although the last individual to be recorded was noted as late as May 12. At this season the species was usually found in scattered companies, rarely exceeding a dozen individuals, feeding in the waters of the bay or resting on the edge of the ice. A large proportion of the birds occurring early in the spring were adults, but with the advance of the season these became scarcer and scarcer, and all the later records were of gray birds. There is a specimen in Mr. Sennett's collection taken as late as May 16, 1875, and Mr. Bacon states that he has often seen them on the open lake in summer, although they seem never to frequent the harbor at that season. He is inclined to think that they may breed on the Canadian shore of Lake Erie, but while such may have been the case many years ago, there would seem to be no recent records to justify such a supposition. The probabilities are that the birds seen in summer are non-breeding and immature individuals, which have failed to follow the bulk of the species to their usual nesting-grounds. In the fall of 1900 a single bird was seen on August 22, and what was presumably the same individual was noted at intervals up to September 6. The following day three were seen, and on September 12, after a stormy night, the species had become abundant, and so remained until the date of our departure in November. Both young and old appeared together at this time, when the former far outnumbered the latter. Although commonly found on the bay, immense flocks frequented the open lake as well, standing in more or less close order on the sandy outside shore, flying out to alight on the water when disturbed. They were at all times shy, but once or twice, during heavy storms, it became possible to approach within gunshot. They were accustomed to follow in the wake of the numerous fishing tugs as they came into the harbor with their catch of fish, ready to pick up what was thrown overboard. None were ever seen in the ponds, although often they were observed soaring high over the Peninsula, on their way between the bay and lake. Mr. Bacon's experience has been much the same. He states that on April 25 and 26, 1901, he noted a pair about a pond in the fields, and has once or twice in

the spring seen several high in the air, flying over the mainland towards the lake, evidently migrating; otherwise he has never observed them away from the lake and bay. In a series of ten specimens secured during the spring and fall of 1900 only one was in fully adult plumage.

10. **Larus delawarensis.** RING-BILLED GULL.

The Ring-billed Gull may occur through the winter, but it was recorded by us as a migrant only, not noticed in the spring, but moderately common in the fall, from October 17 until November 15. Scattering individuals were frequently noticed on both Lake Erie and Misery Bay, sometimes alone, but more often associated with Herring or Bonaparte's Gulls. They were not particularly shy, and on November 4, when they were especially abundant, kept flying over our duck decoys and near the blinds with utter fearlessness. It so happened, however, that no specimens were secured. Mr. Bacon seems not to have met with this bird in life, but Mr. Simpson contributes the following notes: "On April 26, 1902, during a terrific northwest blow that brought on an immense flight of Bonaparte's Gulls, two birds of this species [the Ring-billed Gull] were noted off Crystal Point, one of which I was so fortunate as to secure. From November 17 to 23, 1902, this gull, together with the Herring and Bonaparte's Gulls was quite common off the outside beach during the strong east winds which prevailed at that time, and by persistent effort I was able to secure six specimens, all in the spotted plumage of the immature bird. Two adults were noted, one of which was wounded off Crystal Point, but not secured. Again, on November 24, 1903, a few of this species were seen, associated with the Herring Gulls." Two of the specimens alluded to above, taken respectively on November 22 and 23, 1902, are now in the Carnegie Museum.

11. **Larus philadelphia.** BONAPARTE'S GULL.

This species occurs as a common transient in spring and fall, being most numerous at the former season, according to the testimony at hand. Our experience with this gull in the spring of 1900 was that it was usually found in loose flocks of from twenty to a hundred individuals, coursing up and down the bay, feeding, or occasionally on the outside beach, resting on a sand-bar. However, on the few comparatively calm days during the season more or less compact flocks were met with resting on the smooth water, their light color rendering them conspicuous at a long distance. At such times it was difficult or impossible to approach within range, and far better chances of securing specimens were afforded

by remaining quietly in the boat as the birds came by on their course and picking off such as ventured too close. A single bird flung out as a decoy would almost always bring others within reach, and on one occasion the cries of a wounded bird brought an entire flock headed *en masse* towards the sound. The first individuals were seen on April 13, and the following day a large flock was observed. Practically all of the birds met with thus early in the season were in full adult plumage, with the black hood complete, but towards the latter part of April and during May immature birds were almost exclusively observed. The last were recorded on May 12, but Mr. Bacon has noted them somewhat later — May 15, 1901, May 25, 1895. Our recorded date of arrival in 1900, as well as Mr. Simpson's in 1903 (April 13) may possibly be a little early, since Mr. Bacon's notes give April 26 and 24 as the dates of first appearance in 1892 and 1894 respectively, while there is a specimen in Mr. Sennett's collection taken April 23, 1875. Mr. Bacon has also recorded the species in the fall movement as early as August 13 (1902) and 20 (1890), but he adds that it does not generally arrive until the first week in September, remaining into November, while he has even once or twice seen an individual during the winter months — a statement borne out in some measure by Dr. Warren, who says (*Birds of Pennsylvania*, 1890, 16) that he "observed a flock of a dozen or more of these gulls in company with two or three Herring Gulls late in the month of December, 1889." Although observed in August by Mr. Bacon, as above stated, and, although a specimen in Mr. Sennett's collection was taken as early as September 22 (1875), it was not until October 29 that we noted its return in the fall of 1900. By November 1 the birds were common, being seen almost daily thereafter until November 17, and no doubt remaining still later. They were more frequently observed on the main lake at this season, but were scarcely so abundant as in the spring.

[*Xema sabinii*. Sabine's Gull.

"Accidental in winter on Lake Erie. Mr. Winslow informs me that he took an immature bird of this species in Cleveland harbor many years since." (Wheaton, *Birds of Ohio*, 1882, 552.)

Gelochelidon nilotica. Gull-billed Tern.

"Rare visitor in the vicinity of Cleveland, where taken by Mr. Winslow." (Wheaton, *Birds of Ohio*, 1882, 553.) It is recorded as breeding at the St. Clair Flats on the authority of Mr. Adolphe B. Covert, and as 'often common on Lake Erie' (in Michigan) on the authority of Mr. Jerome Trombley, (Cook, *Birds of Michigan*, 1893, 29).]

12. **Sterna caspia.** CASPIAN TERN.

This large tern was rather common during the fall migration of 1900, from September 4 until October 3. Although occasionally met with by itself, singly, or in small companies, it was more frequently found associated with the Herring Gull, both on the bay and lake, and like that species was rather shy. The large flock of gulls on the outside beach included a number of Caspian Terns, which could easily be distinguished, if adults, by their bright red bills. The adults had a harsh, rasping cry, which was very distinctive, while the note of the immature birds was more musical. Two specimens, an adult and a young one, were secured by us, both on the outside beach, and Mr. Simpson also shot two birds on September 17. There is a single specimen (September 15, 1888) in Mr. Sennett's collection, and Mr. Bacon has observed the species as a regular visitant in September and October, although he has never seen more than ten or twelve in any one season. An immature bird taken October 6, 1892, and an adult and young, taken September 21, 1901, by Mr. Bacon, are in the Carnegie Museum. The only spring record appears to be that of Mr. Simpson, who notes that "during the terrific 'northwester' of April 26, 1902, I saw three on Misery Bay in the company of Common Terns and Bonaparte's Gulls."

[*Sterna forsteri.* FORSTER'S TERN.

Careful search was made for this tern in the spring and fall of 1900, but none were identified, although the species, being more a bird of the interior than *Sterna hirundo*, would naturally be expected to occur. The nearest locality (on the Great Lakes) from which it is reported appears to be the St. Clair Flats, (Cook, *Birds of Michigan*, 1893, 29).]

13. **Sterna hirundo.** COMMON TERN.

A regular transient, abundant in the spring, and fairly common in the fall. It has been recorded as early in the spring as April 26 (1902) by Mr. Simpson, but in 1900 we did not meet with it until May 7, when a few were observed with the Bonaparte's Gulls on the bay, and at least fifty individuals were seen in a flock by themselves. For about two weeks thereafter they were very common indeed, and a number were noted as late as May 29. While the Bonaparte's Gulls remained the terns were frequently found in their company, and both could be decoyed by throwing over a dead bird and imitating their cry. When shot at the terns presently mounted high in the air above their dead companions, while the gulls dispersed or passed on. Later

in the season the terns were often found scattered over the bay resting by preference on pieces of floating driftwood. While there is no present intimation that this species ever bred in the immediate vicinity of Erie, such may readily have been the case in former years, before the city had grown to any size. Mr. Bacon states that as a rule none are seen after May 25, although in 1903 he saw a single individual on June 15, and a pair on June 4, 1904. The nearest point where the Common Tern is actually known to nest would appear to be Big Chicken Island, off Put-in-Bay, Ohio, where Mr. E. B. Williamson of Bluffton, Indiana, in a letter to the writer dated February 14, 1901, states that he collected numerous sets of their eggs on June 30, 1896. The probabilities are that the terns found at Erie breed to the northeast, on Lake Ontario and the Saint Lawrence. For the return movement August 8 (1903) is the earliest recorded appearance, but this is exceptional, according to Mr. Bacon's experience. Thus, we did not meet with it in the fall of 1900 until August 28, when a flock of about thirty was noticed on the bay. It was found in greater or less numbers from that date until September 26, but no very large flocks, such as were met with in the spring, were observed. At this season it frequented the main lake as well as Erie Bay, and was often found associated with the Black Tern during the period of abundance of the latter species.

[*Sterna dougalli*. Roseate Tern.

A maritime species of only casual occurrence in the interior. Dr. J. M. Wheaton includes it as a bird of Lake Erie in Ohio on the authority of Mr. Winslow (*Birds of Ohio*, 1882, 562).

Sterna antillarum. Least Tern.

'Certainly breeds at St. Clair Flats,' according to Dr. W. C. Brownell (Cook, *Birds of Michigan*, 1893, 30), and, if so, it may stray eastward along Lake Erie.]

14. **Hydrochelidon nigra surinamensis**. Black Tern.

Dr. Warren states (*Birds of Pennsylvania*, 1890, 23) that "Dr. John W. Detwiller . . . writes me, that, some years ago he 'procured eggs of the Black Tern upon drift-wood on Lake Erie, near Erie city.' . . . I am not aware that they are now known to breed anywhere in the neighborhood of Erie county or elsewhere in our state." While there is nothing intrinsically improbable in the breeding of the Black Tern here in former years, as, indeed, it does today (or at least as recently as 1896, as the writer is informed by Mr. E. B. Williamson), near Sandusky, Ohio, it has been shown that the late Dr. Detwiller was an

utterly unreliable observer, and all of his published records are thus open to doubt. Dr. Warren goes on to state that "Mr. George B. Sennett . . . has observed the Black Tern in the vicinity of Erie city only during the spring and fall," and to support this statement there are a pair of birds in Mr. Sennett's collection taken September 23, 1875. The only definite spring record available refers to an individual in full breeding dress seen on the bay April 27, 1902, by Mr. Simpson. Mr. Bacon has never met with the species save in September, 1900, so that in its occurrence even as a fall transient it would seem to be irregular. The writer found it very common at the St. Clair Flats and along the Detroit River late in August, 1903, and it is singular that in its migrations it should not regularly extend to the eastward along Lake Erie. Our notes on its occurrence in 1900 are presented herewith. Several small flocks were seen on the main lake September 12, after the most severe storm of the season. On September 15 two were seen on the bay, one of which was secured. On the evening of September 16 the species suddenly became very prominent on the bay about Crystal Point, and on the following day, which dawned stormy and threatening, with frequent gusts of rain and a strong northwest wind, it was exceedingly abundant, swarming on both the bay and lake, far outnumbering the Common Terns, which were flying at the same time. The birds were perfectly tame, silent, and very fearless, repeatedly coming within a yard of the observer in their flight. They would beat up against the wind for a distance and then drift down before it, occasionally stopping over the water to pick up food, and on the outside beach flying over the land and the ponds back of the shore, without discrimination. Individuals in the postnuptial moult, showing a black and white spotted plumage, occurred with the birds in immature and full winter dress in the proportion of about one to one hundred. The day after this great flight comparatively few birds were seen, and these mainly on Erie Bay alone. Such were almost always more or less closely associated with Common Terns, and like them were often found resting on pieces of floating driftwood. The last was recorded September 24.

15. **Phalacrocorax dilophus.** DOUBLE-CRESTED CORMORANT.

The notes on this species would indicate that it occurs sparingly, but regularly, as a transient in late fall and early winter. Dr. Warren so gives it on the authority of Messrs. George B. Sennett and James Thompson, and mentions a specimen shot by the latter on October

26, 1889, from which "a fish, known locally as 'buffalo-sucker,' measuring between eight and nine inches in length was taken." (*Birds of Pennsylvania*, 1890, 28–29.) There is one specimen in Mr. Sennett's collection, dated November 15, 1889. Mr. Bacon has never heard of it in the spring, but has occasionally seen one in the fall, in every case on the wing, although, he adds, "The fishermen inform me that the birds when present often alight on the pond-net stakes. On December 14, 1901, a party of four birds of this species flew over me as I was passing down the neck of the Peninsula, one of which I secured. When skinned its throat was found to contain two ten-inch perch, one of which was perfectly fresh. I have seen single cormorants on the following dates also: October 7, 1897, December 1, 1900, and November 8, 1901, while I secured from a local gunner a bird which had been taken November 6, 1902." Both specimens to whose capture reference is made are now in the Carnegie Museum. Part of a skeleton, with the entire tail attached, was found on the shore of Misery Bay in the spring of 1900, evidently belonging to a bird killed the previous fall. The only living bird of this species noted by us was seen off the outside beach on October 9.

[*Phalacrocorax dilophus floridanus*. Florida Cormorant.

This form may in former years have extended as far north as Erie, and may even have bred. Compare, in this connection, the statement of Dr. F. W. Langdon (*Journal Cincinnati Society of Natural History*, III., 1880, 229) that two specimens, male and female, were taken by Mr. J. B. Porter, in June, 1878, near Port Clinton, Sandusky Bay, Ohio.]

16. **Pelecanus erythrorhynchos.** White Pelican.

The claim of this species to a place in the present list rests on the following statement, which is quoted from Dr. Warren (*Birds of Pennsylvania*, 1890, 29–30): "Mr. George B. Sennett, of Erie, informs me a few of these birds were seen, about fifteen or twenty years ago [*i. e.*, between 1870 and 1875], in the neighborhood of Erie city." Numerous well attested records for this species from contiguous areas would seem to justify the reception of the above statement at its face value.

17. **Merganser americanus.** American Merganser.

This merganser is not very common or well known to the local gunners. It occurs as a transient visitant, and may possibly remain through the winter. One was seen with a flock of Red-breasted Mergansers in Yellow Bass Pond on April 7, this being our only spring

record for 1900. In the fall the first, a young male, was shot at Crystal Point on November 8. A male in incomplete adult plumage was killed over decoys in Horseshoe Pond the following day, and on November 12 two females were shot at Crystal Point. There were also examined a few adults in the possession of a gunner who had shot them on November 17, which was the last date opportunity was afforded to record, but in Mr. Bacon's notes mention is made of a freshly killed bird seen by him on December 8 of the same year. Again in 1903, on a brief visit to the Peninsula, the writer saw a single bird in possession of a gunner, said to have been killed on December 7. All the specimens preserved by us were excessively fat.

18. **Merganser serrator.** RED-BREASTED MERGANSER.

With the single exception of the Lesser Scaup Duck, the present species, known to the local gunners as "Fish Duck," is the commonest of the *Anatidæ* during the season of migration, both in spring and fall. Although doubtless present previously, the first record in 1900 was made March 27, and it was common throughout April and for a few days in May, while a flock of stragglers was observed as late even as May 25. Thus its period of migration at this place extended over almost two months. Although single individuals and small parties were often met with, it was usually found in larger flocks on the bay, being detected but once in the ponds. In the fall it was first noted on October 17, soon becoming numerous, and thus continued up to the time of our departure. At this season it was one of the few ducks that frequented the lake proper, and there were occasions when a number of flocks were visible at one time from the outside beach. It was also one of the species which was readily decoyed, and was thus the source of much annoyance to gunners who were in quest of more edible kinds. As a diver it is most expert, and the writer has repeatedly seen an entire flock while engaged in feeding disappear beneath the surface simultaneously. It is said to remain in the fall until the bay freezes over. Mr. Bacon's notes on this merganser are interesting as tending to prove that it occasionally remains through the summer to breed. He says: "I have seen large flocks here as late as May 19 (1900), and on May 30, 1901, I saw a dozen birds. I have several times seen young mergansers on the bay in July and August, and on one occasion (July 27, 1893) I shot one. All of these birds I am quite certain were of this species, although since I have regretted not having made the identification more positive. On September 6, 1900, I killed an old bird of

this species, although it is well into October before the mergansers are expected. Taking all these facts into consideration, I think they breed here occasionally." See, in this connection, Dr. F. W. Langdon's note on this species (*Journal Cincinnati Society of Natural History*, III., 1880, 229), in which he mentions that it has been identified in summer at Sandusky Bay, Ohio, by Mr. J. B. Porter.

19. **Lophodytes cucullatus.** Hooded Merganser.

This handsome species is fairly numerous as a transient in spring and fall, preferring the ponds of the Peninsula to the waters of the bay, and is often seen in small pools on the mainland during the spring movement. While fairly common, it is never found in such numbers as the preceding species. The dates of its first appearance in the spring are given by Mr. Bacon as April 7, 1899, and March 25, 1901. In 1900 it was first noted on April 2, when a male bird was picked up dead on the north shore of Erie Bay. Later in the month it was repeatedly recorded, but none were seen after May 2 until May 21, when a belated migrant was observed. In the fall the first record was for November 7, and the last for November 18, although without much doubt it actually remained later. While small flocks and single individuals often came to decoys in the bay, such were as often observed in the ponds, feeding in company with Coots and Pied-billed Grebes, whence the name "Pond Fisher" given by the local gunners. Mr. Bacon writes: "I have often seen them feeding in shallow pools, where they could scarcely find anything in the line of fish, so that I am inclined to think that they may feed on vegetable matter at times. They are claimed by many to be good eating. I have found them both good and bad."

["*Anas maxima*." (Gosse, *Birds of Jamaica*, 1847, 399.) Mallard-Muscovy Hybrid.

A specimen of this interesting bird, without doubt a hybrid between the Mallard and the Muscovy (*Cairina moschata*), a tropical American species, which is common in domestication, was taken on the Peninsula near the Life-saving Station on November 25, 1902. The bird was seen flying up and down the bay, and finally alighted on the shore near several men, who captured it by striking it with a club as it started to rise. It seemed to be exhausted. According to Baird, Brewer, and Ridgway (*Water Birds of North America*, I., 1884, 494), "These hybrids are no doubt produced in the barnyard; but it is said that such birds do not inherit the tameness of their progenitors, but revert to the original wildness of both species, and escape by flight. Certain it is, that they are frequently shot by gunners along our coast." The specimen in question, a male, is now in the Carnegie Museum, and may be thus described: Head and neck black, with strong purple iridescence, washed with brown

on the lores, chin, and throat. A broken circlet of white feathers at the base of the neck. Back, scapulars, rump, upper tail coverts, and tail above glossy black, showing rich dark green and violet reflections. Breast rich chestnut, this color also extending in lessening intensity over the sides to the anterior portion of the back, where it appears as a brown wash on the feathers. The chestnut of the breast gradually gives way posteriorly to the grizzled gray color-effect of the abdominal region, which is due to a fine wavy combination of white and black, the latter predominating laterally. Under tail-coverts like the back. Wing-coverts dusky olive-green, the greater ones obsoletely white-tipped, and crossed terminally by a narrow band of black and brown. Primaries dusky black. Speculum iridescent dark purplish green, white-bordered behind. Length (from well made skin), 29 inches; wing, 13; tail, 6.25; bill, 2.40.]

20. **Anas boschas.** MALLARD.

A transient visitant in spring and fall, in some seasons quite abundant, at other times almost rare. As a rule the Black Mallard is more numerous than the present species, but in the fall of 1901 the Mallards outnumbered the others species ten to one, an unprecedented flight having taken place October 17 to 19. The earliest record for the spring migration is February 23, 1891, and other first dates for this season are March 11, 1897, March 8, 1898, and March 2, 1902 (Bacon). In the spring of 1900 it came under our notice first on March 28, when a number were seen resting on the edge of the ice on Erie Bay. This was the only occasion when it was found on the bay, although occasionally it was seen flying over. During April it was seen at frequent intervals in the several ponds of the Peninsula, either alone or in the company of other "pond ducks," particularly the Black Mallard. Early in the season it was usually found in flocks numbering from six to twelve individuals, but during the latter part of its stay it was almost invariably in pairs, each pair by itself, and doubtless mated for the season. May 4 was our latest spring record, and Mr. Bacon notes a pair seen May 5, 1902. Beyond question the Mallard bred at this locality in former years, as stated by Dr. Warren (*Birds of Pennsylvania*, 1890, 35), on the authority of Mr. James Thompson. However, in December, 1902, Mr. Thompson personally informed the writer that it was then more than ten years, to the best of his knowledge and belief, since this species had bred in the neighborhood of Erie. Mr. Bacon has never seen it under such circumstances, although he has noted a single old bird as early as August 24 (1896). It is generally about the middle of September, however, before it reappears in the fall according to the same observer. In 1900 September 21 was the recorded date of arrival, and it was noted at intervals

through the following month, but it was not until November that it became really common, considerably exceeding its spring abundance. Flocks of from ten to twenty birds were found on various occasions in the ponds, and a number of specimens were secured. Curiously enough, all of the individuals in the flocks that we saw seemed to be adult males, and, indeed, the only females recorded in the fall were those which had been killed by local gunners. It was interesting to observe the manœuvers of a flock when seeking a place to alight. They would sweep low over the waters of a pond, then rise and disappear over a wooded ridge half a mile away, returning to repeat the movement until satisfied that the coast was clear, when they would settle in some shallow spot and begin to feed, remaining in one place for hours at a time, if not disturbed. November 14 was the latest date on which an opportunity was given to record the species, although no doubt it remained much later. It was observed by Mr. Simpson from November 17 to 23, 1902, but it is very doubtful if it ever remains through the winter.

21. **Anas obscura.** Black Mallard; Dusky Duck.

This is the most numerous of the "pond ducks," at least in the spring, and occurs as a regular migrant and casual winter resident. Its arrival takes place early in March, and during its sojourn it frequents the ponds on the mainland and Peninsula fully as much as the waters of the bay. In the spring of 1900 the first individuals were observed on the bay on March 31. They were repeatedly noted among the floating ice on the main lake, but the ponds were their usual resting places and feeding resorts. Throughout April they were quite common in such situations, usually in flocks of from five to fifteen individuals, feeding mainly on the seeds of wild rice, with which the gullets and stomachs of the specimens secured were crammed. Towards the end of April it was usual to find these ducks in pairs, apparently mated for the season, and, indeed, it is quite possible that they breed on the Peninsula, although not observed by us later than May 5. On this point Mr. Bacon says: "Although ordinarily not remaining after the first of May (May 2, 1901), I have on different occasions seen a single Black Mallard in the summer months (August 15, 1896; June 25, 1900; July 19, 1903), but I have never seen a flock of old and young at this time, so I am inclined to think that the species has not bred here of late years. During the fore part of September, (September 13, 1894. September 14, 1895, September 4, 1897, September 5, 1902), it reap-

pears on the return migration, and lingers in small numbers well into the winter, an occasional individual even remaining through the whole season." Our notes for the fall of 1900 were in accord with Mr. Bacon's observations. The first specimen was observed September 7, but they did not become at all numerous until November set in, while the last record was for November 17, although they unquestionably remained considerably later.

[*Anas obscura rubripes*. RED-LEGGED BLACK DUCK.

The occurrence of this form, lately characterized by Mr. William Brewster (*Auk*, XIX., 1902, 184), is to be expected in this locality, but the character of the available material does not permit of a positive statement to that effect. Specimens must be had the labels of which shall note the colors of the soft parts. Mr. Lynds Jones thinks that this is the more common form of the Black Duck in Ohio (*Birds of Ohio*, 1903, 38).]

22. **Chaulelasmus streperus.** GADWALL.

"Although this species is not common in the vicinity of Erie, good-sized flocks are sometimes seen mostly in company with other species about Erie bay, where the Gadwall appears to occur in greater numbers than in other parts of the state." This quotation from Dr. Warren (*Birds of Pennsylvania*, 1890, 37), probably based on information received from Mr. George B. Sennett, however appropriate it may have been at one time, is utterly misleading at present. Nothing is more certain than that the Gadwall is by far the rarest of the ducks at Erie. There is no specimen in Mr. Sennett's collection; Mr. Bacon has never seen or heard of it; we did not meet with it during our stay in 1900, nor did we find any gunner who had recognized it. The only positive record is by Mr. Simpson, who examined a single specimen taken by a gunner November 18, 1902. It was shot over decoys in one of the ponds, and was unfortunately so badly mangled through the stupidity of the gunner that it was unfit for preservation. The species must be listed as a transient visitant.

[*Mareca penelope*. EUROPEAN WIDGEON.

So many records for this bird from neighboring areas have lately come to light that it would seem not unreasonable to look for it at Erie as a casual visitant. The male may readily be distinguished from that of *M. americana* by its rufous-brown head.]

23. **Mareca americana.** AMERICAN WIDGEON.

This duck occurs as a regular migrant in spring and fall, but is not very common at either season. It is confined almost wholly to the ponds, and is usually found in pairs or small flocks, sometimes associated with kindred species, particularly the Black Mallard. Accord-

ing to Mr. Bacon's experience it arrives from the south soon after the latter species (March 19, 1898, March 25, 1901), although in 1900 our first record was not made until April 1, a pair shot on that day by a gunner having come into our possession. The last occurrence in spring was noted on April 28. In the fall the first specimen was seen on September 19, and two days later a flock of about ten birds was found in Ridge Pond, one of which was secured. Curiously enough, no others were observed from this time until November 6, while the latest record for the season was for November 13, although no doubt this date, like many others referring to waterfowl at this season, did not correctly indicate the actual time of departure of the species. Mr. Simpson recorded it in 1902 between November 17 and 23, and Mr. Bacon says that "December 5, 1901, is by far the latest date upon which I have observed this species," and adds that September 26, 1899, is an average date for its arrival in the fall. A specimen in Mr. Sennett's collection was taken April 21, 1875. This duck is called "Specklehead" by the gunners about Erie.

24. **Nettion carolinensis.** Green-winged Teal.

A regular and rather common transient, although seldom as well represented as the Blue-winged Teal. Mr. Bacon has observed them about as early in the fall as the other species, as for instance on September 1, 1894, September 15, 1899, and September 19, 1896 and 1901, but in his experience they are always to be found a week or two after the Blue-wings have disappeared. Thus, on November 8, 1901, he killed a pair, and on November 9, 1902, he secured one from a local gunner. Mr. Simpson has received specimens taken as late as November 23, 1903, while November 4 was our last recorded date in 1900. Dr. Warren observes (*Birds of Pennsylvania*, 1890, 38) that these birds are quite common in this locality late in August as well as in September, and that many of them are shot for the market. What may have been one of this species was seen by Mr. D. A. Atkinson August 24, 1900, but it was not certainly detected again by any member of our party until September 19, and only a few were noted during the entire fall migration. But one individual was recorded in the spring: this was a fine male which was secured from a gunner on April 7, having been killed that morning over decoys at Crystal Point. That this record could scarcely be counted as a date of arrival is evident from the following extract from Mr. Bacon's notes: "On March 12, 1898, I killed one from a small flock. The latter date I

consider rather early, the first having been noted in other years as follows: March 28, 1895; March 23, 1901; March 15, 1902." While, according to Dr. Warren, birds of this species are occasionally captured here during the early summer months, there is no evidence to show that the species has nested here in late years. It is partial to the ponds on the Peninsula, but is often taken on the bay as well, and at marshy pools on the mainland.

25. **Querquedula discors.** BLUE-WINGED TEAL.

Fairly common as a spring and fall migrant, and rather more numerous than the preceding species. Three were seen April 12, 1900, on Yellow Bass Pond. Two of these were secured. A flock of six, one of which was taken, was met with in the same place on April 25, and the last specimen was seen on April 28. The earliest date of appearance given by Mr. Bacon is March 27, 1898. He has seen single birds well into the breeding season (May 5, 1892, May 30, 1901), but never has seen one in midsummer. Late in August, or early in September (August 28, 1901, September 6, 1893 and 1902, September 7, 1900, September 8, 1875 and 1894), these birds again appear about the ponds of the Peninsula. Sometimes they come in flocks of twenty to thirty birds, and upon their arrival are very unsuspicious, while in other seasons they are few and far between and correspondingly wary. In Mr. Sennett's collection there are specimens secured September 25, 1875, while our latest fall date in 1900 was September 26. Doubtless, however, it often remains later. Mr. Simpson reports specimens shot at Crystal Point in April of 1902 and 1903, but ordinarily it is seldom found away from the ponds.

26. **Spatula clypeata.** SHOVELLER DUCK.

This is one of the rarer ducks in this locality, where it is of irregular appearance in spring and fall. A pair, shot on the bay, April 21, 1875, are in Mr. Sennett's collection. On April 20 and 21, 1900, there was a small flight of these ducks, they having been found on several occasions, and one male secured (at the head of Big Pond). March 30, 1902, Mr. Bacon secured a single specimen from a gunner, and recorded the species again on April 2. These are all the available spring records, and the notes for the fall migration are similarly meagre. Mr. Bacon killed two in the fall of 1893 (September 6 and 21), and saw several others, even as late as November 18. Since then he has heard of an occasional specimen being shot, although he has

not personally met with the species at this season, while the gunners all consider it rare. In the fall of 1900 it came under our notice but once, when three specimens killed by a gunner on Horseshoe Pond, September 25, were examined. Mr. Simpson reports having taken a single adult female, November 13, 1903.

27. **Dafila acuta.** Pintail Duck.

This species is locally known as "Gray Duck," and is common as a transient visitant during the migrations. They arrive with the Black Mallards in the spring, Mr. Bacon's earliest records at that season being February 23, 1891, while for other years his dates are as follows: 1897, March 11; 1898, March 10; 1901, March 25; 1902, March 11. In the fall they come early in September, (September 6, 1893, September 11, 1894, September 7, 1895, September 15, 1899), and are usually gone by the end of the following month, although on two occasions, November 13, 1902, and December 3, 1903, much later records were made. In 1900 a few were seen on Big Pond on April 20, this being our only spring record. September 19 was the date of their first appearance in the autumnal movement, and they were recorded at intervals from that time until as late as November 16. Single individuals or small parties were the rule, always in the ponds. In all the adult male specimens examined in the fall the middle tail-feathers were in a worn condition and no longer than the others. An interesting specimen, illustrating the moult of the male from summer into winter plumage, was secured on October 17. Mr. Simpson contributes the following notes on this species: "Several males were seen April 26, 1902, in a large flock of ducks that frequented Misery Bay on that occasion. On November 10, 1903, a female was observed."

28. **Aix sponsa.** Wood Duck.

This species is tolerably common as a transient visitant in spring and fall, and every year a few pairs spend the summer on the Peninsula, where they rear their young, their shy and secretive habits during the nesting season enabling them to pass comparatively unnoticed until the young are fairly well grown. Broods of young birds have repeatedly been seen in August, and numerous specimens secured. On August 10, 1901, a flock of ten young birds was noted by Mr. Bacon. Two young taken August 12, 1903, in which the postjuvenal moult had just commenced, are in the Carnegie Museum. It is early in April before

this duck arrives from the south, but it is counted a rare bird in the spring. The local birds seem to leave early in September, but individuals, perhaps migrants from more northern localities, have been seen as late as October 19 (1901). In 1900 the only occasion upon which it came to our notice was on November 10, when we secured a female which a gunner had killed in one of the ponds. Upon skinning it proved to have wounds in both wings near the tip, which had healed, leaving a swelling. This may perhaps account for the late date of its occurrence.

29. **Aythya americana.** REDHEAD DUCK.

A regular migrant, most numerous in the fall, but never abundant. In the spring of 1900 we found them with the flocks of Scaups and Golden-eyes on Erie Bay, and like these they were wild and difficult of approach. The first were noted March 29, and the last April 7, although doubtless these limiting dates included but a fraction of the period during which the species stays (a specimen in Mr. Sennett's collection dated April 21, 1875, would at least indicate as much). They reappeared in the fall on October 13, and were seen at frequent intervals up to November 17, and probably remained still later. On December 9, 1902, the writer saw some Redheads that had been killed on the bay within a few days. Mr. Bacon contributes the following observations: "Soon after the first of October (October 6, 1894; October 3, 1901), and with the first flight of 'deep water' ducks come the Redheads. They are wary and are seldom killed in any numbers. Several fall seasons I have known a flock of at least one hundred of these birds to feed week after week in the western end of the bay, and only an occasional one was killed. They remain well into Nomveber, while one was once taken as late as December 15 (1900), and I have seen a record of a specimen shot January 2, 1903. This species prefers the waters of the lake or bay, but, like the Scaups, occasionally a bird drops into the ponds."

30. **Aythya vallisneria.** CANVAS-BACK DUCK.

The Canvas-back is one of the rarer ducks, and was detected by us only during the fall migration of 1900, when it was the last of the ducks to put in an appearance. Mr. Worthington killed a single bird, a female in moulting plumage, over decoys at Crystal Point on November 13. Two others, also females, which we examined were killed by gunners on November 16, one in Horseshoe Pond (said to have been

one of a flock of four), the other on Erie Bay. Mr. Bacon records the species as an irregular migrant and winter resident, and adds: "I have never seen this bird alive, but nearly all the older generation of sportsmen have killed one or two specimens. On December 21, 1900, a flock of seven appeared at the eastern end of the bay, three of which were shot by Mr. Frank Claus, from whom I secured them. On January 8, 1901, another specimen was killed by Mr. Claus, which likewise came into my possession. Other examples have since been brought me, taken on March 13 and 26, 1902, January 1 and 2, and December 5, 1903. On October 23, 1903, I examined five specimens that were killed on the bay — my earliest fall date." Most of the above dates are represented by specimens in the Carnegie Museum. There appear to be no other records for the occurrence of this duck so far north in winter. Its favorite food, the wild celery (*Vallisneria spiralis*) grows in the bay at certain places, so that it would naturally be expected to occur regularly did other circumstances permit.

31. **Fuligula marila.** Greater Scaup Duck.

This duck was not distinguished from the next species by the gunners, both being known as "Blue-bills." Moreover, owing to the difficulty of discriminating the two forms in life, little can be said definitely of the present species, more than that in the spring of 1900 it certainly constituted a portion of the flocks of Scaups during the earlier part of the season. Specimens were secured on March 29 and April 13, that taken on the latter date being a male in full plumage. Beyond stating that it was evidently much less common than the Lesser Scaup, it is impossible to indicate the relative abundance of the two species. In the fall none were noted until November 8, and specimens were examined which were killed on November 14 and 15. Mr. Simpson reports the species on November 20, 1902, and April 14, 1903, having taken two specimens on each date. Mr. Bacon's notes, however, are of special interest in that they are supplementary to those just presented, tending to show that the seasonal status of this duck is about the same as that of the Canvas-back. "Although I feel sure that the present species is never found here in any great numbers, it probably occurs regularly during the migrations and through the winter. . . . I have occasionally seen one in the markets, and have secured specimens from local gunners taken on the following dates: December 10, 13, and 27, 1902, and January 5, 1903," all of which are at present in the Carnegie Museum.

32. **Fuligula affinis.** LESSER SCAUP DUCK.

The Lesser Scaup is by far the commonest duck at Erie Bay, as well as the one the migration of which in the spring covers, perhaps, the longest period. No doubt a few always winter here ; at any rate they appear just as soon as the ice breaks up. At the time of our arrival in the spring of 1900 (March 23) they were already numerous, and with the breaking up and final disappearance of the ice the flocks were augmented by fresh accessions from the south. They were rarely observed on the main lake, and only occasionally on the ponds, the bay being their chosen haunt. Here they were found in flocks numbering sometimes hundreds of individuals, often associated with other species of sea-ducks, but always outnumbering them. These flocks were wild and could not be approached in a boat within one hundred yards, but refused to leave the bay, rising merely to settle in another part until again disturbed. However, many were killed over decoys set out at various points, even in the open bay during foggy weather, when a boat could be anchored at the proper distance. A favorite feeding-ground, to which the birds persisted in returning despite constant persecution, lay between one hundred and three hundred yards off the mouth of Mill Creek, where the water was only a few feet deep. No diminution in the abundance of the species was evident until late in April, and many were observed through May, usually at or near the spot just mentioned. Some specimens were shot to determine whether these late staying individuals were "pensioners" or birds in normal condition, but not enough were secured to warrant a final conclusion. Thus a specimen taken May 7 was apparently a healthy, well-developed bird, while one shot May 24 had been wounded earlier in the season. Another secured May 10 had its breast plumage ragged and cut, and a strongly smelling carcass ; it was doubtless a sick bird. The presence of this duck thus late in the season is a regular occurrence every year, as is evident from the statements of local gunners and from Mr. Bacon's notes. He says : "I am certain that this species does not breed here, but it occurs in numbers all through the spring and well into the summer months. Early in June of every year there is always a fair-sized flock feeding on the bay. Thus on June 21, 1901, I saw about fifty birds, both males and females, in one flock, and on July 9, 1892, I saw a party of eight : this latter date is, however, my latest summer record." In further support of this statement may be recorded a party of five seen by the writer on June 17, 1897, off the mouth of

Mill Creek. The most reasonable explanation of these facts would seem to be that such late staying birds are those which for some reason have not the ability or inclination to breed, some of them at least being "pensioners," but just why these should be the only ducks known to regularly spend the summer here without breeding it is difficult to say, unless it be that their abundance brings them into more prominence. In the fall of 1900 the first migrants were noted on October 14, and by the end of that month they had become quite common, although the great flights did not take place until the cold stormy weather in November came. They were still the most common ducks at the close of our stay, and doubtless remain as long as there is open water, or well into December. Mr. Bacon contributes the following interesting account of the migration of this species: "On one occasion I saw, as I believed, all the Lesser Scaups in this neighborhood start for the south. The bay had frozen over a few nights before, and on this particular afternoon a large flock of these ducks kept circling over the lake, sometimes high in the air, again dropping swiftly to the surface and skimming along for a mile or so. Finally, having evidently gathered into one flock all the birds of the vicinity, they rose to a great height, and, starting southward, were soon lost to view." A peculiar habit of some of the ducks under certain circumstances is illustrated by the following note, also from Mr. Bacon: "I once wounded a duck of this species in shallow water, and, wading out to where I saw it last, I found it holding to a strong weed by its bill, two or three feet below the surface, stone-dead."

33. **Fuligula collaris.** Ring-necked Duck.

This duck is a transient visitant in spring and fall, probably of regular occurrence, but not common. By the gunners it is not distinguished from the Lesser Scaup, with which it is sometimes found associated, while its seasonal status, save that there are no late spring or summer records, would appear to be about the same. The notes on this species are scanty. The earliest spring record is for March 15, 1903, on which date Mr. Bacon secured a pair shot by a gunner. On April 12, 1900, he shot a male from a flock of five, which were found feeding in a small pool in the fields on the mainland. Mr. Simpson reports a female shot April 14, 1902, and in Mr. Sennett's collection there is a female taken April 21, 1875. These are all the available spring records, and those for the fall are also few in number. A pair in Mr. Sennett's collection, taken October 10, 1889, constitute the

earliest fall record, while Mr. Simpson writes that he secured a female at Crystal Point November 12, 1903, and received a fine male shot by a gunner on December 3 of the same year.

34. **Clangula clangula americana.** AMERICAN GOLDEN-EYE.

The Golden-eye, called by the gunners "Whistler," is of regular and common occurrence as a spring and fall transient, and is found also through the winter, although in much reduced numbers. Whenever the bay opens up a little a few Golden-eyes find the open holes, so that it would seem that they are always present on the lake in winter. Late fall (November) and early spring (March), however, find them most abundant. When it is not too rough, they prefer the open lake for a feeding-ground, but they are commonly found on the bay also, and occasionally even in the ponds. As a rule they go in flocks by themselves, but sometimes occur in the company of other ducks, the Lesser Scaup in particular. Numerous flocks were noted by us on March 28, 1900, although it seems probable that many transient birds really arrived somewhat earlier, inasmuch as the latest record was for April 13, which would indicate that the migration extended over a period of only about two weeks, which seems too short by comparison. According to Mr. Simpson's experience, however, April 26 and 16 were the latest dates for the spring in 1902 and 1903. October 29, 1889, is the earliest fall record available, being the date of a specimen in Mr. Sennett's collection. In the fall of 1900 the first birds were seen November 6. All the male specimens examined in the fall were in the immature plumage save one, taken November 16. Later in the season adult birds seem to be somewhat more numerous.

[*Clangula islandica.* BARROW'S GOLDEN-EYE.

This species may be expected to occur here as a casual winter visitant. The nearest locality at which it has been taken appears to be Lorain County, Ohio, (McCormick, *Auk*, IX., 1892, 397; Jones, *Birds of Ohio*, 1903, 44). Certain intelligent sportsmen, indeed, have informed the writer of its undoubted occurrence at Erie, but in the absence of actual specimens the records are not admitted. The adult males of this species may be distinguished from those of *Clangula clangula americana* by the gloss of the head, which is purple and violet, rather than green, and by the fan-shaped instead of rounded white spot at the base of the bill.]

35. **Charitonetta albeola.** BUFFLE-HEAD DUCK.

Common as a spring and fall transient. In the spring of 1900 they were found usually in small parties by themselves, although during the earlier part of their sojourn they were often met with in larger numbers associated with the flocks of Scaup Ducks. Sometimes, too, they were

noted in the ponds with other ducks, but the bay seemed to be their favorite resort, and many were killed here over decoys, as well as shot from a boat, they appearing less wild than most ducks. The first was recorded March 23, and they may have come even earlier, (Mr. Bacon's earliest record is March 11, 1899). Early in April the period of greatest abundance was reached, and the last was noted on April 20. In the autumnal movement they were not observed until November 5, when cold weather had set in, but were common during the remainder of our stay, being recorded almost daily up to Novembr 16, although here, as probably also in the case of numerous other waterfowl, the last date of record by no means approximated the real date of departure, since Mr. Bacon's latest date for this particular season was December 15, a month later, while a specimen in Mr. Sennett's collection is labeled December 19, 1874. Another of Mr. Sennett's specimens was taken October 31, 1875, which is the earliest fall record available. Mr. Simpson recorded this duck during his visit from April 24 to 27, 1902, this constituting the latest spring record.

36. **Harelda hyemalis.** Long-tailed Duck.

This is another duck of common occurrence in spring and fall, being found usually in small parties, or in flocks of moderate size. They were noted first on March 28 in the spring of 1900, becoming common during the first half of April, while single individuals were secured as late even as May 5 and 18. Upon their return in the fall the earliest record was made October 18, and by October 25 they had reached the height of their abundance. Although all which were thus recorded were seen on the bay, it is evident that this species must be far more numerous on the waters of the open lake, miles off the shore. Here the birds, in diving for their food, get entangled in the immense gill-nets set by the fishermen, and perish by drowning. In lifting the nets their bodies are removed, and as a rule thrown overboard, being little esteemed as food, when they eventually drift to shore, to be devoured by Crows and Bald Eagles. Many thousands are thus destroyed annually, but, singularly enough, no other species of duck seems to suffer similarly, unless it be the various species of Scoters, but the proportion of these thus taken is inconsiderable. Such wholesale destruction as this involves has necessarily operated to reduce their numbers materially. Eight or ten years ago these birds were a pest to the fishermen of Lake Erie, particularly in the fall. Mr.

Bacon's published notes on this subject (*Ornithologist and Oölogist*, XVII., 1892, 45) are so interesting that they are here reproduced entire:

"This bird is in my opinion the most abundant duck in this locality, during migrations generally appearing in immense flocks after a blow. Last November [1891] these birds were caught in the herring nets on Lake Erie by the thousand. At Dunkirk, N. Y., between five and seven thousand were taken at one haul. At this port (Erie) the largest haul, to my knowledge, was eight hundred. A very few American Black Scoters were also taken, but no other species. Lake Erie is, to be sure, a shallow lake, but the fishermen informed us that most of the ducks were caught when the nets were set [in] 15 fathoms (90 feet) of water, a few being caught in 18 or 20 fathoms. One captain told me that he caught three ducks of this species in 27 fathoms, and I do not doubt his word. One of our daily papers printed a long article on this subject, claiming that the fishermen set their nets on purpose to catch ducks, but I had ample proof that such was not the case, for the ducks were invariably so badly entangled in the nets, as to cause considerable trouble in getting them out; besides, after the first large haul the markets were glutted in all directions, and many were thrown away.

"This bird is well known to be an expert diver, yet the fact that they can descend to such depths as I have noted seems remarkable to me. Their flesh is very poor, still it seems a pity that they should be slaughtered in this way, and while I do not think they are liable to be exterminated, last fall's catch must have made quite a diminution in their ranks."

Feeding as they do mainly on the lake, and flying into the bay at dusk to spend the night, they are seldom killed by gunners in any numbers, and, indeed, they are not worth the ammunition, as they are too fishy for table use. The species is called "Pintail" or "Coween" by the local gunners, and exhibits a great variety of plumages in the transition from the winter to the summer dress, and *vice versa*. Many individuals attain a practically complete breeding plumage before their departure in the spring, which does not finally take place until about the first of June, a few lingering until that date almost every season. The single specimen in Mr. Sennett's collection was taken at the remarkably early fall date of September 13, 1876. On the other hand, they may winter here, occasionally at least. Thus, there

are specimens in the Carnegie Museum shot by gunners on Erie Bay on January 20 and 29, 1901, and February 16, 1904, respectively. Mr. Bacon writes, that, while shooting snipe in the fields April 31, 1901, he killed one of these ducks, that came flying overhead; with this exception, he has never seen one away from the lake or bay.

[*Histrionicus histrionicus.* Harlequin Duck.

There appears to be no valid Ohio record for this northern species, but it may occur along Lake Erie as a casual or accidental winter visitant.

Somateria dresseri. American Eider.

This is an essentially marine species, which occurs "south in winter . . . to the Great Lakes" (*A. O. U. Check-List of North American Birds*, 1895, 57), and may be expected as a straggler at Erie at that season.]

37. **Somateria spectabilis.** King Eider.

The King Eider is a casual winter visitant on Lake Erie, there being records from Sandusky, Cleveland, and Buffalo. (See Wheaton, *Birds of Ohio*, 1882, 536, and Allen, *Bulletin Nuttall Ornithological Club*, V., 1880, 62). The first record of its occurrence in the region of which this paper treats was published by Mr. George B. Sennett, whose notes (*Auk*, VII., 1890, 88) are herewith quoted entire: "The great storm of Nov. 28 and 29, 1889, on the Great Lakes, brought into the Bay of Erie a flock of fifteen to twenty King Eider Ducks. They were seen about noon of Nov. 30 swimming in close to the Iron Ore Dock where numbers of men were at work unloading vessels. The hunters were soon down on the dock with guns and others put out in boats. So fearless or stupid were the Ducks that it was no trouble to shoot them, and at one discharge three were killed. Mr. James Thompson very kindly took two of the birds home with him and telephoned me that some very queer-looking Ducks had been shot that day, placing at my disposal the pair he had secured. The next day, December 1st, we went to the dock and to all the hunters we could get track of and captured all the specimens that had not already gotten into the pot. Out of fourteen that we could trace as having been killed, we were fortunate enough to obtain seven in good condition. The oldest hunters here do not remember to have seen any of the kind before. They call them Boobies, the same name they give to the Surf Ducks that are frequently taken here. No other Ducks were seen in the bay when the Eiders appeared. They are in all varieties of immature plumage, none appearing in anything like the breeding condition. The nearest approach to it was one male that

showed pearl-gray mixed with dark on top of head; he also had a distinct black V-shaped mark on the white throat. The other males had browner heads and fainter black V-shaped throat markings. Of the seven, six are males, and one a female in good typical plumage. I believe that none of this species has been recorded as taken on Lake Erie since 1879, when eighteen were shot at Buffalo, N. Y. (See note by J. A. Allen in *Bull. Nutt. Ornith. Club*, Vol. V, p. 62.)" Substantially the same account is given by Dr. Warren (*Birds of Pennsylvania*, 1890, 46), who adds that "Two hunters, who unfortunately before they knew we were anxious to preserve the ducks for our collections, had cooked three or four which they had captured, said the dark-colored flesh was tough, stringy, and so rank and unsavory that they could not eat it." There are four of the above birds preserved in Mr. Sennett's collection, including the one female; the others evidently went into Dr. Warren's possession. To the above records of the occurrence of this species at Erie the writer is able to add two more, both on the authority of Mr. Bacon. On November 13, 1894, five of these birds were shot on the bay, one of which he secured, and which is now deposited in the United States National Museum (Biological Survey Collection). Again, on December 30, 1900, another specimen — one of two seen — was shot on the lake east of the city limits, and this also came into Mr. Bacon's hands, and thence to the Carnegie Museum, where it is now mounted in the Pennsylvania collection. Both specimens were immature males.

38. **Oidemia americana.** AMERICAN SCOTER.

This duck has been observed only as a transient late in the fall, although it probably remains through the winter. It seems to be the least numerous of the genus here, having been certainly detected on but three occasions. One was shot at Crystal Point, November 13, 1900, and another near the Life-saving Station, November 17, by gunners, the first specimen coming into our hands. Mr. Simpson reports one taken at Crystal Point, November 10, 1903, and adds that several ducks seen by him off the outside shore about this time were either this or the Surf Scoter.

39. **Oidemia deglandi.** WHITE-WINGED SCOTER.

Fairly common as a transient visitant in the fall, and of not infrequent occurrence as a winter resident, but seemingly rare in the spring. In the fall of 1900 it was numerous in the waters of the lake off the

outside shore, often closely associated with *O. perspicillata*, with which it was found in mixed flocks. Such were first noted on October 9, and at frequent intervals thereafter until October 27. Occasionally single birds appeared on the bay, where they continued to be seen until November 19, when the work of the season was concluded. Mr. Simpson notes that specimens were shot at Crystal Point, November 22, 1902, and November 13, 1903, and others were seen. Mr. Bacon reports specimens taken November 6, 1894, January 30, 1901 (a pair), and November 27, 1903. The only spring record available refers to a single individual seen March 27, 1900, in a flock of Lesser Scaup Ducks on the bay. The only full-plumaged bird seen by the writer from this locality is a specimen in Mr. James Thompson's possession, said by him to have been taken late in the fall, about 1892.

40. **Oidemia perspicillata.** Surf Scoter.

The general notes on the last species are applicable to this as well, save that there is no spring record in the present case. Flocks were noted on the outer lake from October 9 to November 5, 1900, and a single bird was seen as late as November 13. A specimen shot on Horseshoe Pond November 7 was the only one identified by Mr. Simpson during his visit in the fall of 1903. In Mr. Sennett's collection there is a female taken at the head of the bay October 17, 1875, while Dr. Warren (*Birds of Pennsylvania*, 1890, 48) says that in January, 1890, he purchased a bird of this species from a hunter who had shot it on the bay, where a flock of about twenty was said to have been seen. All three species of Scoters are known locally as "Boobies," and are little esteemed for the table.

41. **Erismatura jamaicensis.** Ruddy Duck.

Occurs as a transient visitant only, far more numerous in the fall than in the spring, although as a species much less common than formerly. We did not notice it at all in the spring of 1900, but Mr. Bacon has occasionally observed it at that season, and Mr. Simpson saw two adult males shot by gunners April 13, 1903. A specimen in Mr. Sennett's collection is marked April 18, 1875. Dr. Warren remarks (*Birds of Pennsylvania*, 1890, 49) that stragglers are occasionally observed at Erie Bay in summer, but that the species is not known to breed there, while Mr. Bacon records a single female (now in the Carnegie Museum) taken June 8, 1892, and a pair observed May 29, 1904, adding that these are the only ones he has seen

under such circumstances. However, the breeding range of this duck is coextensive with its geographic distribution, and it is not impossible that it should have nested here in former years. In the fall movement it has been met with, according to Mr. Bacon, as early as September 27 (1893), while October 2, 1875, is the date of a specimen in Mr. Sennett's collection. October is evidently the month when it is most common. In the fall migration of 1900 it was most frequently observed on Misery Bay, where the first was seen October 1, a single bird in company with a Coot, both of which were secured. By October 12 it had become quite numerous, and was recorded at intervals until November 13. It was found sometimes singly, but more often in twos and threes or even larger parties. By the gunners it was called "Hardhead." Most of the specimens examined were in immature dress. Dates of last appearance in other years are November 6, 1894 (Bacon), and November 12, 1903 (Simpson).

[*Chen hyperborea nivalis.* GREATER SNOW GOOSE.

"Not rare on Lake Erie," according to Dr. J. M. Wheaton (*Birds of Ohio*, 1882, 518), and be looked for as a casual spring and fall transient. The Lesser Snow Goose (*Chen hyperborea*) may also occur, but the larger form is the one more likely to be found. Mr. Lynds Jones gives both forms as occurring in a number of counties in Ohio (*Birds of Ohio*, 1903, 48).

Chen cærulescens. BLUE GOOSE.

Another goose whose occurrence here as a casual visitant may be expected in spring and fall. "A specimen which I saw in Cincinnati was said to have been taken on Sandusky Bay." (Wheaton, *Birds of Ohio*, 1882, 520). "Two were captured on the Oberlin water-works reservoir, October 28, 1896." (Jones, *Birds of Ohio*, 1903, 49.)

Anser albifrons gambeli. AMERICAN WHITE-FRONTED GOOSE.

There are a few records from Ohio given by Dr. J. M. Wheaton (*Birds of Ohio*, 1882, 518), who says that it is "more common on the lake and reservoirs than elsewhere," so that it is not unreasonable to look for its casual occurrence during migration at Erie also.]

42. **Branta canadensis.** CANADA GOOSE.

The Wild Goose is a regular and fairly common migrant at both seasons, concerning which Mr. Bacon writes as follows: "Every fall two or three Geese are killed about the bay and Peninsula, but in the spring they keep to the fields (and are six months older too!), and are seldom brought to bag. I have never seen them during the winter, nor earlier in the spring than March 2 (1902). Other dates of apparent arrival are March 28, 1895, March 13, 1897, and March 12,

1898. On April 30, 1889, I saw a flock of a dozen Geese, and on May 1, 1902, a single pair; I consider both of these very late records. A flock of about fifty was noted October 20, 1899, which is perhaps a fair average date for the arrival of the species in the fall." During the season of 1900 it was observed as a not uncommon transient, but was not seen to alight, the flocks passing over well out of gunshot. The first spring record was for March 29, when a flock of a dozen birds was noted, and another flock of the same size was seen April 7. On the return of the species in the fall October 26 and 27 were days of great movement, large flocks passing southward at this time. A single individual was seen flying south November 13. Mr. Simpson states that several flocks were seen passing over November 22, 1902, while during the big blow of April 26, 1902, five individuals were observed.

[*Branta canadensis hutchinsii*. Hutchins' Goose.

This form resembles the Canada Goose in color, but is smaller. Dr. J. M. Wheaton records it from Sandusky Bay on the authority of Mr. R. K. Winslow (*Birds of Ohio*, 1882, 522), and it may occur occasionally with the larger form at Erie also, although specimens would be required to settle the matter beyond dispute.

Branta bernicla glaucogastra. Brant.

Essentially a marine species, rare in the interior. The Ohio records cited by Dr. J. M. Wheaton (*Birds of Ohio*, 1882, 520) are admitted by him to be rather unsatisfactory. However, it is apt to occur along Lake Erie as a rare or accidental visitor.]

43. **Olor columbianus.** Whistling Swan.

A rather rare and irregular spring and fall visitant. Mr. Bacon saw one individual on the bay March 11, 1897. Two were killed in 1901, one in the spring (April?), and another (an immature bird) in November, which latter bird is now in the Carnegie Museum. A flock of about twenty was reported by Mr. Faulkner G. Lynch to have been seen on November 16 of the same year. Mr. Simpson writes that on November 19, 1902, he saw a party of four flying down the bay early in the morning. The latest record is of an adult in full plumage shot by a gunner on March 30, 1904.

[*Olor buccinator*. Trumpeter Swan.

This swan may be of casual occurrence here as elsewhere in the Eastern United States. There are some Ohio records (Wheaton, *Birds of Ohio*, 1882, 516; Jones, *Birds of Ohio*, 1903, 51). It could not readily be distinguished from the other species in life, and any records of its occurrence must rest upon specimens.]

44. **Botaurus lentiginosus.** AMERICAN BITTERN.

A summer resident on the Peninsula, fairly common for a species of such solitary habits, finding congenial haunts in the rank growth of rushes and other aquatic plants fringing the various ponds, but not averse to bushy places. Although no nests are actually known to have been found, it doubtless breeds in such situations, where it has been observed in every month from April to October inclusive. The earliest dates of arrival are those borne by two specimens in Mr. Sennett's collection, marked respectively April 4, 1888, and April 10, 1875. Mr. Bacon has not noted it earlier than April 13 (1895) or 15 (1892). In the spring of 1900 its first recorded appearance was on April 17, but it could scarcely be said to have reached its normal summer abundance until May. The latest fall records are October 26, 1875 (Sennett); October 28, 1893, and 17, 1892 (Bacon). We did not see it in 1900 after October 6. It is rare anywhere away from the Peninsula save during migrations, but Mr. Bacon saw one in a grassy marsh on the mainland June 27, 1891.

45. **Ardetta exilis.** LEAST BITTERN.

This diminutive species occurs as a summer resident, more common than its larger relative, but unlike it never observed away from the tracts of rushes and marsh grass save when disturbed, when it will occasionally alight in the shrubbery. Yellow Bass and Niagara Ponds, accordingly, are the ponds where it is most numerous, affording as they do the most extensive areas of this kind. A number of individuals, two of which were secured, were noted here on June 26 and 27, 1899, when they were doubtless breeding. There is no record of this bird away from the Peninsula or bay shore, nor has its nest been found up to date, although search at the proper season would undoubtedly discover it. It is a much later comer than the American Bittern, the first to arrive in 1900 being recorded May 21, and becoming common soon thereafter. In other years the observed dates of arrival have been May 24, 1875 (Sennett); May 19, 1892, May 25, 1893 and 1901 (Bacon). The only instance of its occurrence in the fall which was observed related to specimens secured on August 27 and September 3 respectively, which would indicate its early departure at this season. September 7, 1892, is Mr. Bacon's latest date, but in 1902 Mr. Simpson reported that a single bird had been seen September 25.

[*Ardetta neoxena*. CORY'S LEAST BITTERN.

This species (if species it be) has been found near Toronto, also in Michigan, and should occur at Erie at least as a transient.]

46. **Ardea herodias.** GREAT BLUE HERON.

Although this species occurs through the summer months, it is not believed to breed anywhere in the vicinity, no nests having been seen or reported. Individuals may be found any day in July and August on the Peninsula, on the outside beach as well as about the ponds, while during migrations in spring and fall it is tolerably common also. It is but seldom met with on the mainland, although an occasional bird has been noted there in the spring. The following dates, culled from Mr. Bacon's note-book, are of interest as indicating its times of occurrence and migration: May 30, 1901, three birds; June 25, 1900, one bird; March 31, 1899; March 27, 1902; April 4, 1892; November 22, 1902. During the spring movement it sometimes occurs in flocks. A party of six was observed April 12, 1900, and Mr. Simpson writes that he flushed ten birds together in Niagara Pond, April 14, 1903.

[*Herodias egretta.* AMERICAN EGRET.

Stragglers may be expected to occur in this region, especially in late summer and early autumn.

Egretta candidissima. SNOWY HERON.

Mr. Sennett's record as given by Dr. Warren (*Birds of Pennsylvania*, 1890, 60) is too indefinite as to the exact locality to warrant the inclusion of this heron in the Erie list. If it occurs at all it could only be as a summer straggler from the south.

Florida cærulea. LITTLE BLUE HERON.

Mr. L. M. McCormick notes a specimen taken near Oberlin, Ohio, about 1882, (*Auk*, IX, 1892, 397), and it is apt to occur at Erie also as a straggler.]

47. **Butorides virescens.** GREEN HERON.

This species may be considered a common summer resident, breeding in suitable situations about the pools and along the streams of the mainland, and also, according to Mr. Bacon, on the Peninsula, although our experience in the spring of 1900 would scarcely confirm such a statement, as the bird was met with there on but a few occasions during the entire season. The first spring record was for April 19, when a single bird was seen in a pool in an open woods on the ridge south of the city. The latest record was for August 29, but doubtless this was too early by a month.

48. **Nycticorax nycticorax nævius.** BLACK-CROWNED NIGHT HERON.

"Two immature Night Herons, said to have been killed in a swamp in this neighborhood, were brought to a local taxidermist a few years ago, in the summer." (Bacon.) The species is doubtless to be listed as a rare summer resident.

49. **Rallus elegans.** KING RAIL.

A rare transient visitant, an occasional bird having been taken here. Mr. James Thompson has a mounted specimen killed by him about 1898, late in the fall. He has never seen but the one, while Dr. Warren's statement (*Birds of Pennsylvania*, 1890, 68) that Mr. Sennett has observed it in Erie County as a spring migrant is not supported by specimens in Mr. Sennett's collection. Mr. Bacon never met with the species until 1902, when he was so fortunate as to secure three specimens (all shot on the mainland), one each on April 17, May 7, and September 13, respectively, the one taken on the latter date being an immature bird. All are now in the Carnegie Museum.

50. **Rallus virginianus.** VIRGINIA RAIL.

Occasional as a summer resident, and during the migrations said to be regular and tolerably common. However this may be, in 1900 we recorded it only as a rare fall transient. What was probably the same individual was flushed in Niagara Pond on September 28, October 1, and October 4. A specimen brought us September 29 constituted our only other record. As to its nesting here there is no question, as Mr. Bacon's notes attest: "On May 26, 1891, I found a nest containing nine eggs in a swamp west of the city, and on June 2, 1892, I found another nest in the same marsh, also containing nine eggs. April 18 (1900) is the earliest date upon which the species has been noted in the spring, while recorded last dates are October 25 (1901) and 28 (1893)."

51. **Porzana carolina.** SORA RAIL.

The Sora Rail is mainly a transient, not uncommon in the spring, and very abundant in the fall, outnumbering the Virginia Rail ten to one, and like that species occasionally remaining through the breeding season. Two nests have been found by Mr. Bacon, one June 4, 1890, in a bunch of cat-tails at the "Head," containing eleven eggs, the other May 25, 1892, in the same marsh where the Virginia Rail was found breeding, likewise with eleven eggs. March 31, 1902, is the earliest record of the arrival of this species; this, however, is very exceptional indeed, the usual date ranging from April 27 (1895) to May 5 (1892). In the spring of 1900 it was observed by us on but five occasions, a single individual having been met with in each case. The first was on May 10, when a bird was killed at the mouth of Mill Creek, while the other occurrences were all on Niagara and Yellow

Bass Ponds, from May 24 to 31. Although found in some numbers in all the marshy spots about the bay, these two ponds seem to be the favorite resorts of the species during the fall movement, offering, as they do, the best and most extensive tracts of suitable covert, the growth of wild rice, on the seeds of which the birds feed, constituting the main attraction. They were already present on August 20, 1900, when our fall observations began, but as a rule the first great flight does not take place until about September 1, varying only a day or two either way, on which occasions, and at intervals thereafter, the birds are excessively abundant, and very large bags are often made by gunners. "I have seen the time," writes Mr. Bacon, "when Niagara Pond seemed fairly alive with them," and our own experience at this season was in full accord. After September 25 they are seen only in small numbers, while October 25 (1893 and 1894) is as late as they have ever been observed, and, indeed, in 1900 we saw none after October 6. An adult male specimen in Mr. Sennett's series, taken October 25, 1889, is evidently melanic. (See *Auk*, VII, 1890, 71.) This rail is said by Mr. Bacon to be an expert diver upon necessity, as for instance when wounded and trying to escape.

52. **Porzana noveboracensis.** Yellow Rail.

The credit of adding this interesting species to the fauna of Erie belongs to Mr. Bacon, whose notes are herewith transcribed in full: "A rather rare spring and fall migrant, not known to the local gunners, although, like myself, they must meet with it occasionally. I observed it on the Peninsula first on September 30, 1893. In the fall of 1894 I met with it on three different occasions (October 15, 17, and 19) at the mouth of Mill Creek. On September 18, 1895, I took a single specimen in the snipe grounds west of the city, and on April 27, 1896, I took another at the same place. Again, on September 20, 1900, I shot one Yellow Rail at the mouth of Mill Creek, but in the fall of 1901 I saw and secured more than in all previous seasons combined. Evidently a small bunch, perhaps a family group, stopped in the snipe grounds (before mentioned) west of the city, where I noticed them first on September 25, when I saw three and secured two. (Previously, however, on September 15, I had received an immature bird killed by a local gunner.) From this time on I never failed to start one or two Yellow Rails by hunting through this grassy spot (marsh grass, cat-tails, and wild rice), but often they rose so close at hand and flew such a short dis-

tance that it was out of the question to shoot. Eight specimens in all were secured, the last on October 29. Seldom were more than two seen at once, but they were always flushed at about the same spot, and I am inclined to think that I secured nearly all of them. The species was also met with on April 28, May 3, and October 4, 1902, September 17, 1903, and April 23, 1904." In view of the above facts it would not be surprising if this rail should be found nesting here. Two of the specimens taken by Mr. Bacon are in the United States National Museum (Biological Survey Collection), while most of the remaining birds are preserved in the Carnegie Museum. The series exhibits considerable variation in plumage, and seems to show that the males are larger than the females. Two fall specimens, evidently immature, are very dark-colored, and have the crown and sides of the head prominently spotted with white.

[*Porzana jamaicensis.* LITTLE BLACK RAIL.

Rare as the Yellow Rail is accounted to be in most localities, this diminutive species is rarer still. Erie is possibly a little too far north for it to be found; but so little is known concerning the exact limits of its distribution that it may yet be detected here.]

53. **Gallinula galeata.** FLORIDA GALLINULE.

Careful search was made for this species in 1900 by our party, but without success. However, Mr. Bacon enters it as a rare and irregular spring and fall transient, having recorded it on the following dates, in every case on the Peninsula: May 28, 1892, August 29, 1894, September 3, 1900, August 30, 1901, and October 2, 1902. One of these birds was found swimming among the wild rice, the others were flushed along the shore of the ponds. In addition to the above records, a specimen was brought Mr. Bacon October 7, 1891, which was killed in the fields just east of the city. It seems strange that this bird is so rare here, and has not been found breeding, when Dr. F. W. Langdon has noted it as such a common summer resident at the head of Sandusky Bay, Ohio (*Journal Cincinnati Society of Natural History*, III, 1880, 228).

54. **Fulica americana.** AMERICAN COOT.

So far as known the Coot is a transient visitant only, uncommon in the spring, but quite abundant in the fall. It mainly frequents the ponds, where it skulks among the aquatic plants, less frequently the marshy shores of the Peninsula and the waters of the bay. Usually it is found singly or in small parties, which are by no means averse to

the company of the various species of ducks and grebes, but during an immense flight of this species on October 7, 1902, as many as seventy-five were seen in one flock. March 28, 1898, appears to be the earliest recorded date of arrival, but in 1900 we saw none until April 10, when a single bird was met with in a flock of Black Mallards. Others were seen later in the month, and one was shot on May 15. An individual seen on May 23, 24, and 26, when it was finally secured, was in worn and faded plumage, but showed no signs of breeding. As this locality is well within the known breeding range of the species, the only reason that it does not nest here would seem to be the general publicity of the place. However, it has been observed as early on the return movement as September 5, 1875 (Sennett), and September 7, 1900 (Bacon), but does not become common until October, and remains well through the following month, the latest date on record being December 6, 1900 (Bacon).

55. **Crymophilus fulicarius.** Red Phalarope.

This is more of a maritime species than the other phalaropes, and inland is the rarest of the three kinds. It occurs at Erie as a very rare transient. In Mr. Sennett's collection there is a female in winter plumage shot October 10, 1899, by Mr. James Thompson. Just six years later, on October 10, 1895, Mr. Bacon secured another specimen at the mouth of Mill Creek, which bird is now in the Carnegie Museum. These examples appear to constitute the first authentic records for Pennsylvania, although the species has been noted from both sides, at Cleveland and Buffalo (Wheaton, *Birds of Ohio*, 1882, 467, and Savage, *Auk*, XII, 1895, 313).

56. **Phalaropus lobatus.** Northern Phalarope.

"At Erie bay and about the lake shore in Erie county this phalarope is found as a rather regular but not common migrant, seen most frequently in the fall." (Warren, *Birds of Pennsylvania*, 1890, 76.) To support this general statement there are, however, only three records positively known. Two specimens, females, taken September 29, 1888, and October 10, 1889, are in Mr. Sennet's, collection, while a third specimen was secured by the writer at the mouth of Mill Creek on the occasion of the great storm of August 29, 1893, and is now deposited in the U. S. National Museum (Biological Survey Collection).

57. **Steganopus tricolor.** WILSON'S PHALAROPE.

The only authority for the inclusion of this species is Dr. Warren (*Birds of Pennsylvania*, 1890, 77), who says that "at Erie bay small flocks of these phalaropes are sometimes to be seen in the fall swimming in the water like ducks." No specimens are known to be extant, however, but for the present the record may be allowed to stand, inasmuch as there is nothing intrinsically improbable in the occurrence of the species at this point, and specimens may come to hand at any time. Dr. J. M. Wheaton speaks of it as having been repeatedly taken in the neighborhood of Cleveland (*Birds of Ohio*, 1882, 464).

[*Himantopus mexicanus*. BLACK-NECKED STILT.

A Mississippi Valley species, casually straying eastward. Dr. J. M. Wheaton says that it "has been repeatedly taken on Lake Erie, as I am informed by Mr. Winslow." (*Birds of Ohio*, 1882,463.) There are no recent records known to the writer from this general region.]

58. **Philohela minor.** AMERICAN WOODCOCK.

A summer resident, according to our observations not very common on the Peninsula in view of the apparent adaptability of the place to its needs. It was met with on two occasions by the writer on June 26, 1899, and in 1900 a pair must have had a nest near the foot of the board-walk, as they were repeatedly flushed there, and on May 21 two young, but a few days old, were discovered. They were odd looking little fellows, covered with down of two shades of reddish-brown, and were able to run about and utter a weak peeping cry. May 29 what were presumably the same birds were again seen, then much larger and more active. Mr. Bacon contributes the following interesting observations on this species: "Common as a summer resident, arriving the latter part of March (March 23, 1901), and staying until the first severe weather in November, my latest record being November 14, 1901. Erie County contains some very good Woodcock ground for both summer and fall shooting. In favorable seasons a good many broods are raised in the vicinity of Erie, particularly on the Peninsula. As a rule they are well grown by the first of July, but I have seen young birds at that time scarcely able to fly. A single Woodcock may happen to be found almost anywhere, particularly during the fall migration. For instance, such places as a fence-row, cornfield, brier-patch, orchard, or thicket may harbor a single bird, but to find any number together it is necessary to traverse a growth of young poplars,

and if such be overrun with goldenrod it is all the more apt to prove a favorite haunt. In such a spot, during the migration, a dozen birds may be killed, apparently depopulating the place, and yet the next day there may be as many birds as ever, the result of an influx during the intervening night. In large tracts of second-growth there are often found particular spots, seemingly no better for Woodcock than a hundred other similar places, where the birds will be found with certainty day after day, unless, indeed, the ground be flooded."

59. **Gallinago delicata.** Wilson's Snipe.

Common as a transient visitant, and rare as a summer resident. According to Dr. Warren (*Birds of Pennsylvania*, 1890, 81), "Mr. Samuel Thompson, of Erie city, reports having discovered a nest and four eggs in June, 1889, in a swamp near the Erie county poor-house," while Mr. Bacon also records it (on the authority of Mr. George C. Russell) as nesting elsewhere in the county, outside the limits of the present paper, however. This observer writes as follows of his extensive experience with the present species: "The county in general, and the lake shore plain in particular, contain much excellent snipe ground in the spring, but in the fall the fields are seldom flooded, and being very grassy, do not furnish inducements for the birds to alight. The Peninsula on the contrary is better ground in the fall than at the other season, as the close of winter finds the edges of the ponds so bare that there is no cover for even a snipe. From my notes on the migration of this species, covering over ten years, I find that the date of its arrival on an average falls in the last week of March, March 13 (1903) being the earliest and April 10 (1896) the latest date respectively. The bulk of the birds pass through in April, and not a few linger into the following month for a week or more, or until May 7 (1892 and 1898) to May 17 (1894). Its return in the fall is seldom delayed beyond the last week in August, my earliest record being August 18 (1896) and my latest September 15 (1899), while it lingers as a rule until the first week in November, the records ranging between October 19 (1898) and November 21 (1899). A curious partial albino [now in the Carnegie Museum] was shot May 7, 1892." According to our observations in 1900 this bird is by no means so numerous on the Peninsula as the local conditions would seem to warrant. Single individuals were met with as a rule, more rarely small flocks or "wisps," always on the edge of the ponds, from April 20 to May 10

in the spring, and from August 23 to October 3 in the fall, at which season it was most numerous, however, in September.

60. **Macrorhamphus griseus.** RED-BREASTED SNIPE.

Occurs as a rare transient visitant, being mentioned by Dr. Warren as having been taken here (*Birds of Pennsylvania*, 1890, 83), doubtless on Mr. Sennett's authority, although there is no specimen in the Sennett collection. Concerning the single specimen in the Carnegie Museum Mr. Bacon speaks as follows: "While hunting in the fields west of the city July 19, 1892, a single shore-bird whose note was unfamiliar to me flew by and alighted perhaps a mile away. Following up I came upon it again at the edge of a pool, and was successful in securing the bird, which proved to be of the present species. Since that time I have seen one or two individuals, believed to have been of this species, at the mouth of Mill Creek."

[*Macrorhamphus scolopaceus.* LONG-BILLED DOWITCHER.

This bird should be looked for during the migrations. It has occurred at Strawberry Island in the Niagara River (Savage, *Auk*, XII, 1895, 313).]

61. **Micropalama himantopus.** STILT SANDPIPER.

This interesting species must be listed as an irregular visitant in the fall. It may, indeed, occur every season, but gunners would scarcely distinguish it from the Lesser Yellow-legs, with which it is often found associated. It was first observed in this locality by Mr. Bacon and the writer at the time of the great storm of August 29, 1893, on which date five specimens were taken from a small flock at the mouth of Mill Creek. On September 13 of the same year Mr. Bacon secured a single bird, and another on the day following. It was not again met with until August 31, 1895, when he shot eight specimens out of a flock of forty birds, at least half of which were Lesser Yellow-legs. These were all obtained at the mouth of Mill Creek. Since that time, however, it has been detected on the Peninsula also, about the ponds, where one specimen was taken August 7, 1901, and a second, an adult bird still retaining much of the summer plumage, on August 20 of the same year.

62. **Tringa canutus.** ROBIN SANDPIPER; KNOT.

Although given by Dr. Warren (*Birds of Pennsylvania*, 1890, 84) as a regular and somewhat common visitor at this locality in spring and fall, this species has been rarely observed of late years. A pair, shot on the Peninsula September 17, 1875, are all that are in Mr. Sennett's collection. On August 27, 1895, Mr. Bacon took a single

bird on the outside beach, and on August 30 of the same year examined two others which had been shot on the beach near the "Head." One other was secured August 29, 1896. Mr. Simpson killed a single bird from a flock of Killdeer Plover on September 10, 1900, also on the outside beach. These are all the available positive records of the occurrence of the species.

63. **Arquatella maritima.** Purple Sandpiper.

Nothing is known of the occurrence of this sandpiper here beyond the brief statement made by Dr. Warren (*Birds of Pennsylvania*, 1890, 84): "Mr. George B. Sennett, of Erie city, mentions it as a straggler in his locality." There is one record for Cleveland, Ohio, given by Dr. J. M. Wheaton (*Birds of Ohio*, 1882, 476). The species should be looked for in November and December, along the outside beach.

64. **Actodromas maculata.** Pectoral Sandpiper.

The following account of this species is taken from Mr. Bacon's notes: "The Pectoral Sandpiper is a transient visitor, irregular, but sometimes fairly common in the spring, more abundant and regular in the fall. At the former season, if found at all, it occurs in flocks numbering from twenty to forty or fifty birds, feeding in wet places in the fields. I have met with it repeatedly during the last week in March, my earliest record being March 23, 1895, but usually it is most numerous in April, while the latest spring record is May 4, 1893. For the autumnal movement July 31, 1897, is the earliest date; this, however, is decidedly exceptional, the usual date of its arrival ranging between August 20 (1896 and 1901) and September 4 (1894). The migration continues usually until the middle of October and occasionally even later; thus, I have noted birds on October 31, 1895, and November 3, 1894. At this season it is found in flocks seldom exceeding a dozen birds, frequenting the edges of the ponds, and the marsh at the mouth of Mill Creek in particular. It does not take to cover like the Wilson's Snipe, but stands so still and quiet that it is seldom seen until it flushes. It is a hard flier and single birds afford good sport." This sandpiper is rarely found on the outside beach. One was shot there on September 10, 1900, by Mr. Simpson, which, with another taken by Mr. Worthington on Big Pond, October 31, constituted our only record.

65. **Actodromas fuscicollis.** WHITE-RUMPED SANDPIPER.

One of the rarer transients among the shore-birds. The following specimens are in Mr. Sennett's series: one, October 23, 1874, "head of bay"; two, June 4, 1875, "on the Peninsula"—the only spring record, and a very late date—and one October 29, 1889. The species was noted by the writer as quite common on the occasion of the great storm of August 29, 1893, when it was found in small flocks at the mouth of Mill Creek, feeding in the muddy slime, and very tame and unsuspicious. Since then Mr. Bacon has met with it a few times at the same place. October 11, 1894, he shot a single specimen, also again on September 28, 1895. On October 9 and 10, 1895, he secured two birds each. In the fall of 1900 a single specimen was secured (on the outside beach) by Mr. Worthington on October 15.

66. **Actodromas bairdii.** BAIRD'S SANDPIPER.

Baird's Sandpiper, essentially a bird of the interior, and recorded but once from Pennsylvania previously (Todd, *Auk*, VIII, 1891, 240), proves to be a species of moderately common and presumably regular occurrence as a fall migrant at this locality. It is found singly or in pairs, always on the outside beach, and occasionally in the company of other shore-birds. September seems to be the month when its migration is mainly performed, the earliest birds having been noted in 1900 on September 5, and the last September 29. In addition a single specimen was secured as late as November 2, but its condition indicated that it had been wounded and thus unduly delayed. Mr. Bacon has observed the species on the following dates: August 24, 1892; September 16, 1893; September 1 and 7, October 5, 1894; October 3, 1895; September 11, 1897; August 22 (the earliest record), September 1 and 5, 1902. He does not recall having seen more than a pair together.

67. **Actodromas minutilla.** LEAST SANDPIPER.

This diminutive shore-bird has been observed as a transient visitant, quite common in both spring and fall. It may be looked for almost anywhere about the bay where there is a mud-flat, or where the aquatic weeds cast up by the waves thickly strew the outside shore, and it is occasionally found in flooded fields also. On its way northward it passes through in May, the earliest arrivals in 1900 having been observed May 8, while from Mr. Bacon's notes we learn that May 24 (1893) is the latest date at this season. It returns in August, the

earliest record being August 13, 1902, and usually is present through most of September, and even until, in one instance, as late as October 3 (1895). The season of 1900 for some reason seemed to have been an unfavorable one for this species, as it was not very common in the spring, when it was noted only at the mouth of Mill Creek from May 8 to 16, and but one bird was seen in the fall (August 23). Moreover, no flocks of any size were observed, single individuals or small parties being the rule.

68. **Pelidna alpina sakhalina.** Red-backed Sandpiper.

Tringa (Pelidna) alpina sakhalina Buturlin, Auk, XXI, 1904, 253.
Pelidna alpina sakhalina, A. O. U. Check-List, Auk, XXI, 1904, 412.

Quite common as a transient visitor in the fall, but rare in the spring. Some birds believed to have been of this species were noted as early in 1900 as August 22, 27, and 31, in company with other shore-birds, but no others were seen until October 11, when one specimen was taken. It was observed at frequent intervals on the outside beach up to November 3, the days of greatest movement being October 25 and 26, when flocks of considerable size were met with. Single individuals taken on November 15 and 16 had been previously wounded, which may account for the lateness of their stay. All the specimens secured were in full winter plumage. Mr. Bacon's notes on the present species are of great interest as showing its quondam abundance, as well as the reason for the decrease in its numbers. "In former years extensive flights took place about the first of November, upon which occasions bushels of them are said to have fallen to a single gun. During these great flights the flocks were accustomed to follow the outside beach of the Peninsula (having presumably come directly across the lake) to its southeastern extremity, thence crossing over to the sand-beach east of the mouth of Mill Creek, where, after having been sadly depleted by dozens of guns, they would finally rise high in the air and pass southward over the mainland, flock following flock all day long. I know this by hearsay only, but am positive that this is the bird that used to arrive in such numbers late in the fall. On October 29, 1897, I killed fifty-three of these birds out of two flocks, comprising in all perhaps as many more, and this is the nearest approach to a flight that has occurred of late years. Every season, however, numerous small flocks are found, appearing sometimes as early as the first week in October (October 2, 1894; October 3, 1895; October 6, 1891), but more commonly toward the latter part of the

month. November 9, 1894, is my latest fall record. The spring records are few indeed. I took a specimen May 16, 1892, and on May 19, 1896, I saw a flock of perhaps forty birds, and with the sun glistening now on their red backs, and then on their black breasts, as they circled back and forth after the manner of Golden Plover, it was a sight not soon to be forgotten. On April 21, 1900, I saw one of these birds which had been killed in the fields; aside from this I have never known them to be met with away from the lake. Their flesh I consider very far from being a delicacy, tasting very fishy in fact." Mr. Sennett's collection affords two additional spring records: May 23, 1875 (two specimens), and May 15, 1889. There is also one specimen, taken September 21, 1875, in his series, while Mr. Simpson reports single specimens secured on September 25 and 26, 1902, these being the earliest authentic fall records.

69. **Ereunetes pusillus.** SEMIPALMATED SANDPIPER.

A very common transient in the fall, but spring records seem to be few. A single bird was seen May 23, 1900, and in Mr. Sennett's collection there is a bird taken at the remarkably late date of June 4, 1875. In 1900 Mr. Bacon met with it in the fall movement as early as July 27, and on August 22, when our work began, it was already common, continuing in varying numbers until September 27, after which date no more were observed. It was found both singly and in flocks, very often in the company of other shore-birds, frequenting the outside beach. On August 29, 1893, it was common at the mouth of Mill Creek, and an unusually large flock was seen on the sand-beach at the Soldiers' Home grounds. This species and the Least Sandpiper, which it so much resembles in size and coloration, are not distinguished from each other by the gunners, both passing under the name of "Peep," and being slaughtered for sport whenever the opportunity offers. The Carnegie Museum has an interesting albino specimen of this sandpiper, taken by Mr. Bacon August 25, 1894; it is white, lightly washed with rusty on the crown, back, wings and tail.

[*Ereunetes occidentalis.* WESTERN SANDPIPER.

Many small sandpipers, killed by gunners and by our own party, were examined in the hope of finding specimens of this species among them, but none were found. Still, it may yet be detected as an accidental fall migrant.]

70. **Calidris arenaria.** SANDERLING.

The Sanderling is without question the most abundant of the migrating shore-birds in the fall, although it has not been observed in the

spring. July 27 was the date of its arrival in 1900 as recorded by Mr. Bacon, and it was present and common on August 22 when our fall observations began. There was no noticeable decrease in its numbers until October, and, indeed, it continued a frequent and fairly regular visitor up to October 27. In addition a single bird, to all appearances well and unhurt, was taken as late as November 16. It was met with exclusively on the outside beach, and there were not a few days when it was the only shore-bird seen there. Single birds, or two or three together, were often found, but as a rule it was observed in flocks of a dozen or thereabouts, keeping close to the edge of the water, running down and back again with the recession and advance of the waves, ceaseless in activity and graceful in every movement. The flocks of old birds met with earlier in the season were sometimes difficult to approach, but the young, which alone were found after the first of September, were usually quite unsuspicious, and would often come within a few yards if the observer remained perfectly still. A flock of about two dozen birds was seen on the mud-flats at the Soldiers' Home grounds during a brief visit made there by the writer on August 22, 1903, this being the only time the bird was ever noted away from a sandy beach. Mr. Bacon notes that it usually appears sometime during the first half of August, and says that he has seen it as late as October 27 (1893). Mr. Sennett has a specimen taken November 1, 1874, and Mr. Simpson shot one November 17, 1902. "On September 16, 1900, I observed several feeding on a dead fish, and seemingly fighting over it." (Bacon.)

[*Limosa fedoa*. MARBLED GODWIT.

"Mr. George B. Sennett informs me stragglers are occasionally taken in Crawford and Erie counties." (Warren, *Birds of Pennsylvania*, 1890, 88.) The exact locality to which this note pertains cannot now be ascertained, although the statement may well refer to the vicinity of Erie. In this connection also it may be noted that Mr. Sennett even gives this species as *breeding* in Western Pennsylvania (Elliot, *North American Shore Birds*, 1895, 105).

Limosa hæmastica. HUDSONIAN GODWIT.

This species may occur as a casual or accidental visitant. It has been noted on Lake Erie near Cleveland (Wheaton, *Birds of Ohio*, 1882, 481).]

71. **Totanus melanoleucus.** GREATER YELLOW-LEGS.

A regular transient, occurring in moderate numbers both in spring and in fall, although never so plentiful as the Lesser Yellow-legs, in the company of which it is occasionally found. More than a half dozen in any one flock have not been observed, single birds and pairs

being the rule. "March 28, 1902, was an exceptionally early date of first appearance in the spring, as they usually arrive sometime during April [April 13, 1889 (Sennett); April 16, 1900], many lingering well into the following month before finally passing northward [May 10, 1900], sometimes even until May 25 (1893). I secured one specimen July 28, 1896, and at that time thought the date very unusual indeed; I have since, however, seen them in August several times. Their migration continues through September and most of October and even occasionally into November (November 4, 1893), but at no time does there seem to be any concerted movement among them, involving marked flights on certain days, as with many other shore-birds." To Mr. Bacon's notes above quoted may be added Mr. Simpson's record of a bird seen flying over at Crystal Point, November 18, 1902. In 1900 our earliest fall date was August 25, and the latest October 31. The length of the period of migration in this species on its southward movement is remarkable, and equaled in the case of but few other birds. They seem to be about equally partial to the mud-flats at the mouth of Mill Creek, the outside sand-beach, and the marshy edges of the various ponds, and even at times the flooded fields of the mainland. As a rule they are shy and difficult to approach.

72. **Totanus flavipes.** LESSER YELLOW-LEGS.

Like its larger congener, the present species is a transient visitor in spring and fall, but is more numerous, at least at the former season, occurring more plentifully, perhaps, than any other shore-bird of equal size. The marshes and mud-flats at the mouth of Mill Creek are a favorite feeding-ground, although it frequents as well the other spots where shore-birds in general are wont to be found. Flocks of this species seldom aggregate two dozen birds, which, unlike those of the larger kind, are as a rule quite unsuspicious, so that it is comparatively easy to secure specimens: on one occasion (May 7, 1900) four were taken at one shot. Mr. Bacon states that they make their appearance usually during the last week in April (April 23, 1900; May 4, 1894), the bulk passing through during the first half of May, the latest recorded date being May 24, 1893. Mr. Simpson reports a pair seen at Crystal Point April 26, 1902, while our records for the spring of 1900 (all from the mouth of Mill Creek) ranged between May 1 and 12. In the autumnal movement they are said to reappear some time in August, on one occasion (1901) as early as August 7, lingering

well into October, recorded last dates varying between October 11 (1894) and 14 (1893). We did not, however, meet with them in 1900 at this season save on August 22 and 23, and September 21. It is very evident that this species is not so hardy as the Greater Yellow-legs, its migration being performed during the warmer part of both seasons.

73. **Helodromas solitarius.** Solitary Sandpiper.

The Solitary Sandpiper is regular and common as a migrant, and of casual occurrence as a summer resident, having been noted by Mr. Bacon on various occasions through the summer, of which the following were recorded: July 19, 1892, July 7, 1896, and July 25, 1890. Upon this latter date two specimens were taken, both young birds. Migrants from farther north, however, begin to arrive in August, exact dates lying between August 17 (1901) and 25 (1897). In the fall of 1900 it was first noted (at Mill Creek) August 20, but did not appear to be very common at that season, at least on the Peninsula, where it was observed only on September 13 and 25. The latest fall date given by Mr. Bacon is October 12, 1901. He has observed its arrival in the spring from April 27 (1895) to May 6 (1893). In the spring of 1900 it was first seen May 3, when one was noted at a muddy pool a few miles west of the city. May 8, 9, and 10 were days when a considerable movement took place, the species being met with not only at the mouth of Mill Creek, but about the ponds on the Peninsula as well. It was observed at intervals up to May 24. This species has not been found on a sandy beach, the margins of the ponds on the Peninsula and pools on the mainland being its favorite resorts.

74. **Symphemia semipalmata.** Willet.

Mr. Simpson is the only observer in this region who has been so fortunate as to meet with this species, whose occurrence here must be considered as very rare or accidental. His account is as follows: "On April 24, 1902, while hunting on the outside beach, I saw two large shore-birds at the very water's edge, standing close together. As there was no cover I kept on as if to pass them, and fired at long range just as they were about to start, with the fortunate result of securing both birds. They proved to be a pair of Willets in full spring plumage, and were pronounced 'Golden Plover' by gunners who saw them, as are also Yellow-legs or any large wader." These specimens are now preserved in Mr. Simpson's collection. Many

years ago (1838) this bird was recorded by Dr. J. P. Kirtland as a common visitor, doubtless breeding, on the shores of Lake Erie in Ohio (*American Journal Science and Arts*, XL., 1841, 24), but there is no recent evidence to substantiate this statement, and the species is certainly rare enough at the present time so far north in the interior.

75. **Bartramia longicauda.** BARTRAMIAN SANDPIPER.

The writer has never met with the present species in this locality, but Mr. Bacon's very full notes admirably supply the deficiency. "This interesting species must be put down as a migrant, rather common in the fall, less numerous in the spring, and of occasional occurrence as a summer resident. Some seasons, as for instance in 1899, it has been quite common in certain localities which it frequents. I have spent many afternoons in the pursuit of these birds, and have concluded that more can be found on a couple of square miles of pasture and farm land, just west of the city of Erie, than in all the remainder of the county. From my own knowledge of the county, and from information given by others, I am led to believe that this bird seldom stops, save on the lake shore plain. Thus, I have never seen one on the Peninsula, and never expect to, for it is a bird of the pastures and clover fields. During spring migrations I scarcely ever see more than one or two pairs, but by July 15, or soon thereafter, I always find a bunch of young birds on their way south, perhaps half a dozen, perhaps two dozen, and, if it happens to be a favorable season, their numbers are soon augmented. It would seem to be the case that a rainy summer with a luxurious growth of weeds and grasses brings but few Bartramian Sandpipers, but let it be hot and dry, with the stubble short, and grasshoppers by the million, then they may be expected in abundance. On June 20, 1897, at Miles Grove, I saw a bird of this species which acted unmistakably the part of a female with young, flying from side to side along a road lined with grain fields, and occasionally alighting within a few yards of me. On June 25, 1899, I saw a single bird, and on May 21, 1890, I saw several, while a female taken May 9, 1900, was nearly ready to nest, so that I think an occasional brood is raised in the vicinity of Erie also. One day while watching a flock take their usual dive preparatory to alighting, I saw one of them strike a telegraph wire, cutting both his neck and his existence off short. My records of the vernal appearance of this species lie between April 11 (1896) and May 1 (1897), while the latest fall date appears to be September 22, 1896." This species has, how-

ever, despite Mr. Bacon's prediction, been taken on the Peninsula, but its occurrence there must be very exceptional indeed. Mr. Simpson writes as follows: "April 26, 1902, during the big storm, flock after flock of Bonaparte's Gulls came in from the main lake over Niagara Pond to the bay, and with one of these flocks came a smaller bird, which upon shooting proved to be a Bartramian Sandpiper."

[*Tryngites subruficollis.* Buff-breasted Sandpiper.

One of the rarer shore-birds, which has been recorded, however, from Cleveland, Ohio (Wheaton, *Birds of Ohio*, 1882, 491), and has even been noted as breeding near the Ontario shore of Lake Erie (McIlwraith, *Birds of Ontario*, 1894, 156–157).]

76. **Actitis macularia.** Spotted Sandpiper.

This familiar and ubiquitous bird is an abundant summer resident on the Peninsula, where it doubtless finds suitable nesting grounds in the grassy sand-dunes back from the outside beach, and where it was observed in June of 1897 and 1899. It is found also on the shores of the bay, and about the ponds — anywhere, in fact, wherever water runs or stands, but does not often associate with other shore-birds. It comes from the south in April (April 18, 1900; April 27, 1894). The bulk seems to pass southward by the end of August, but a few usually linger well through September, the last being seen in 1900 on September 23. On May 2, 7, 8, and 9, 1900, it was excessively abundant at the mouth of Mill Creek, flying in flocks, shy and restless, behaving very much as do those of some other shore-birds. The time of its nesting is indicated by a nest with two eggs found by Mr. Bacon, May 24, 1893.

[*Numenius longirostris.* Long-billed Curlew.

In early times this species may have been not uncommon on the shores of Lake Erie (*cf.* Kirtland, *American Journal Science and Arts*, XL, 1841, 24), and it may still occur as a casual visitor. Certain gunners have described a bird to the writer which was probably this species, which they claimed to have killed near Erie within late years.]

77. **Numenius hudsonicus.** Hudsonian Curlew.

Occurs as a transient visitant, rare and irregular in late years, although well known to the older generation of sportsmen. It has been seen here in the spring, but most of the reports of its occurrence are for the fall migration. Mr. Bacon has seen but two individuals, on August 1, 1890, and August 27, 1895. Mr. James Thompson has a mounted specimen which he says was taken in the fall, about 1892. The Carnegie Museum has an example said to have been shot in the '80's by Captain J. D. Paasch.

78. **Numenius borealis.** ESKIMO CURLEW.

A very rare fall transient. "A few of these birds are seen every year about the shores of Erie bay, where, in October, 1889, two were shot by Mr. James Thompson, of Erie city." (Warren, *Birds of Pennsylvania*, 1890, 96). A single female in Mr. Sennett's collection taken September 17, 1889, and marked as having been collected by James Thompson and George B. Sennett, is evidently the only basis of the above statement, since Mr. Thompson asserts that the specimens in question passed into Mr. Sennett's possession.

79. **Squatarola squatarola.** BLACK-BELLIED PLOVER.

A transient species, regular and fairly common in the fall migration. Neither this nor the following species have been positively identified in the spring, but on at least two occasions Mr. Bacon has seen a single plover at that season, belonging to one species or the other. August 1, 1890, is his earliest fall record, but ordinarily it does not arrive until about the middle of the month, attaining its greatest abundance in September, and remaining often through the greater part of October, and sometimes even later (November 10, 1894). In the fall migration of 1900 the first was observed August 23, and September 10 and 17 were days of special movement, while the last record for the season was not made until October 31. Small parties are the rule, although single birds are not infrequent, and the outside beach and Horseshoe Pond are its favorite haunts. It has also been observed by Mr. Bacon on the ploughed fields of the mainland. Of the whole number secured but three were adult. These were taken on September 5 and 17—by rare good fortune, as they are very wild as compared with the young, which can usually be approached with little difficulty. This preponderance of immature birds is noted also by Mr. Bacon, who has seen but three or four adults in all, two of which were secured (August 28, 1897; August 17, 1901). He considers the young very indifferent for the table.

80. **Charadrius dominicus.** AMERICAN GOLDEN PLOVER.

In its seasonal distribution this species is like the last. "Taking one year with another," Mr. Bacon writes, "I consider this species much the more abundant of the two. Flocks of from twenty-five to fifty birds used to be seen every season, frequenting the ploughed fields west of the city, arriving soon after September 1, and staying for a week or two. These flocks seemed to be comprised mainly of old

birds, the young being found in pairs and small bunches around the lake beach. I saw two such flocks in September, 1901, the first seen to speak of in several years. The Golden Plover is seldom noted in August, but on August 20, 1896, I shot one old bird. My latest fall note is November 5 of the same year." Very few individuals of this species came to our notice in 1900. The first was observed August 27, a specimen taken September 17, and one seen the following day — all on the outside beach. The last record was that of a bird shot at Crystal Point on September 25. Both birds secured were immature. In 1902 Mr. Simpson shot a specimen on September 27, and on November 18 saw three flying down the bay at some elevation, uttering their peculiar whistle.

81. **Oxyechus vociferus.** Killdeer Plover.

Common as a summer resident, and among the first of the shore-birds to move northward in the spring, arriving some time in March, the exact date varying between March 8 (1898) and 28 (1896). It is not so numerous at this season as many others, however. Moreover, it is practically certain that none breed on the Peninsula, as such a noisy species as this is much in evidence daily on its nesting grounds, and it was not thus observed. A female taken May 17 exhibited signs of breeding, but had evidently come from a distance. The cultivated fields of the mainland afford more suitable nesting facilities. "On April 7, 1888, I found a single egg in a ploughed field. From subsequent experience I think this must have been very early nesting, as the next earliest record is for May 5, 1894, when a nest with four eggs was discovered, while on June 25, 1899, I met with a brood of young" (Bacon). It is in the fall migration that the Killdeer gathers into flocks and visits the Peninsula in large numbers, thronging the outside beach, often in company with other species, noisy, restless, and suspicious. It was already present there August 22, 1900, and on September 8 there was a great flight of this species, to the almost complete exclusion of all other shore-birds. After the first week in October it was noticeably less common, but did not finally disappear until November 12, when one was seen in Big Pond — the only instance of its being met with about the ponds. Mr. Bacon notes an individual seen as late as Thanksgiving Day, November 26, 1891.

82. **Ægialitis semipalmata.** Semipalmated Plover.

Save the Sanderling alone, the present species is perhaps the most numerous of the transient shore-birds. May is the month when its

northward movement takes place. In the spring of 1900 its arrival was recorded May 8, and it was observed at intervals until as late as May 28, most frequently at the mouth of Mill Creek, but also on the outside beach and the bay shore. The return movement probably began before August 22 (Mr. Bacon's earliest fall record is August 7, 1901), when the species was already common on the Peninsula, continuing thus until about October 1, after which date it was only occasionally found. A single straggler was shot November 2. It usually appears in flocks of greater or less size, and is fond of the company of other shore-birds.

83. **Ægialitis meloda circumcincta.** BELTED PIPING PLOVER.

This interesting species is to be classed as a summer resident, several pairs nesting annually on the wide stretches of sandy beach on the outer shore of the Peninsula. It was first met with June 17, 1897, when at least two pairs were found by the writer, haunting the outer beach and the shores of Horseshoe Pond, but none were secured. Upon the occasion of the next visit — June 26 and 27, 1899 — it was again met with in the same locality, and two specimens were collected. In 1900 it was first noted as early as April 16, although not again until May 2. Several specimens were captured during this latter month, and in a female shot May 24 was found an egg that would have been deposited very shortly, thus settling beyond question the matter of the species breeding here. Mr. Bacon has taken young of the year on July 21, 1892, and August 17, 1901. It was noted in the fall only on August 22 and 23, and September 7, and these records in all probability refer to the same individual, which was shot on the last date. Mr. Simpson noted a bird of this species September 26, 1902, and in Mr. Sennett's collection there are a pair taken May 4, 1875. Its favorite haunts are wide stretches of dry, sandy beach, with which it agrees so perfectly in color that unless in motion it is difficult to distinguish. It runs very rapidly, and is rather shy and hard to approach within range.

84. **Arenaria morinella.** RUDDY TURNSTONE.

The Turnstone occurs sparingly, but perhaps regularly, during the fall migration, and has been observed in the spring also. A specimen shot on the Peninsula August 29, 1893, came into the writer's hands the next day. Single birds were captured in 1900 on August 28, September 5, and September 24, and one was identified, but not se-

cured, on September 25. These records were all either for the outside beach or Horseshoe Pond. Mr. Bacon has met with the species on but a few occasions, and has not seen more than two together. Following are the dates when it has been observed by him: September 5, 1892; May 24, 1893; September 21, 1901; August 30, 1895; August 11, 1896. In addition he speaks of having occasionally examined specimens killed by others, which failed of record in his notes. Mr. Sennett has two specimens: September 12, 1875; August 24, 1889.

85. **Colinus virginianus.** Bob-white; Quail.

"A resident species that would be common on the mainland if given a fair chance. The guns and dogs are a little too numerous, however, and an occasional winter with continued cold and crusted snow may seem to exterminate them entirely, but there are always some left, and once or twice they were almost abundant." (Bacon.)

86. **Bonasa umbellus.** Ruffed Grouse.

A common resident, seemingly better able to hold its own against sportsmen and bad weather than the Quail, provided the timber is not thinned out too much. Wooded hillsides and ravines are its favorite resorts, and even along the wooded bluffs of the lake shore, right up to the city limits, it is seen every fall. Indeed, it even breeds here not infrequently. Mr. A. M. Howes reports having met with a female and brood of young on May 30, 1892, only two miles west of the city. Occasionally it is met with on the Peninsula, but never seems to increase there, although there seems no good reason for such a scarcity as both general report and extended observations indicate, unless it be that the well known abundance of minks, weasels, and birds of prey should account for it. A female with a brood of young was noted along the board-walk by the writer on June 26, 1899, and Mr. Simpson records its occurrence in November, 1902. "On November 27, 1902, I shot the first I ever saw on the Peninsula." (Bacon.)

87. **Ectopistes migratorius.** Passenger Pigeon.

Formerly a very abundant species, now almost exterminated. Mr. Bacon writes: "In the year 1889 I met with this bird on two occasions, but have not seen nor heard of it since. June 9 an adult male was shot by a friend, and on July 18 I shot a young bird." These dates and the attendant circumstances would suggest that the species was breeding, and, indeed, it is given by Dr. Warren on Mr. Sennett's

authority as breeding sparingly in Erie County (*Birds of Pennsylvania*, 1890, 111). Mr. Sennett had three males in his collection, two of which are now in the Carnegie Museum; they bear dates of April 3, 1875, March 13, 1876, and April 11, 1876, respectively.

88. **Zenaidura macroura.** MOURNING DOVE.

Common as a summer resident, arriving, according to Mr. Bacon's experience, from March 18 (1898) to 25 (1893), and staying through September. He adds further: "They are also occasionally seen in late fall and even in winter (January 5, 1891). Their abundance is extremely variable from year to year. Thus, in the summer of 1891 they were exceedingly numerous, and I remember seeing as many as five hundred in a single afternoon. Ordinarily, however, it is seldom that more than a half dozen will be seen in an afternoon's tramp through the country. Again, I have found them quite abundant early in July, seemingly all young birds, while two weeks later I could scarcely find a Dove in an afternoon's hunt. Certain fields always have a special attraction for Doves, and on one dry ridge not far from the city I can always start a dozen or two in season, which must, however, be transients, as I never see as many there later on. This species does not occur on the Peninsula as a breeder," the birds seen there being visitors from the mainland. A few were noticed there in the spring of 1900, first on April 2, and thereafter on several occasions until May 2. It was usually found in pairs, haunting the more open places.

89. **Circus hudsonius.** MARSH HAWK.

A summer resident, breeding, Mr. Bacon feels quite positive, on the Peninsula, where it has been seen through the nesting season. It is often seen on the mainland also, and is in fact the most common hawk in this section, save the Sparrow Hawk alone. It has not been observed in winter, but has been noted as early as March 27 (1901). In 1900 it was occasionally seen in the spring from April 10 to May 3, and in the fall from August 26 to October 3. An immature example shot on Big Pond September 29 was the only one secured.

90. **Accipiter velox.** SHARP-SHINNED HAWK.

This hawk is in all probability a summer resident, although so far it has not been certainly detected during the breeding season. It is not uncommon, however, during the spring and fall migrations, especially at the former season. In 1900 the earliest record was for

April 7, and from April 17 to 21 there was a considerable flight, while May 8 was the latest date upon which it was noted. In the fall the first came September 26, and the last was recorded October 23. It seemed to be partial to the open places on the Peninsula, and the sand-dunes bordering the outside beach were a favorite resort. Mr. Bacon has taken specimens in April, May, and October.

91. **Accipiter cooperii.** Cooper's Hawk.

Apparently not a common species in this section, its seasonal status, both observed and inferred, being the same as that of the last. One was noted in the woods near Big Pond, April 2, 1900; a specimen was secured September 1 at the head of Yellow Bass Pond; and one other was observed September 3. Mr. Bacon has taken specimens March 27, 1901, and April 5, 1902. These seem to be all the records.

92. **Accipiter atricapillus.** American Goshawk.

This is given by Mr. Sennett as a rare visitor, doubtless in winter (Warren, *Birds of Pennsylvania*, 1890, 125), as might be expected. Further records, however, are very desirable.

93. **Buteo borealis.** Red-tailed Hawk.

Concerning the Red-tailed Hawk Mr. Bacon writes as follows: "I have seen young birds of this species killed in midsummer, and believe it breeds regularly, although I have had no experience with it myself. March 18, 1901, I secured from Mr. Frank Claus a specimen shot by him on the Peninsula." It doubtless occurs as a permanent resident. Mr. Simpson saw a pair on November 18, 1902, on the outside beach.

94. **Buteo lineatus.** Red-shouldered Hawk.

A summer resident, possibly remaining through the winter, but there are few records for any season. In Mr. Sennett's collection are two specimens, November 7, 1876, and September 14, 1888. Mr. Bacon has secured examples on April 6, 1899, and March 30, 1901. Mr. Simpson noted two birds late in September, 1902. In 1900 a pair were repeatedly observed about the lower end of the board-walk during the last week in March, and on April 3 one which had been shot by a gunner was found in a ducking-blind at Graveyard Pond — doubtless killed two days previously. This pair may have intended nesting in the vicinity, but were not certainly noted thereafter. One other individual observed November 1 constituted our sole remaining record. Mr. A. M. Howes has been so fortunate as to find this hawk breeding, the exact locality being a tract of woods within the curve made

by the Philadelphia and Erie Railroad, on the ridge east of the city. He secured a set of four highly incubated eggs on April 24, 1894, and a second set of three, probably laid by the same pair, on April 5, 1895. Both nests were in trees, thirty-five and forty feet from the ground.

95. **Buteo platypterus.** BROAD-WINGED HAWK.

Recorded by our party on but two occasions, but probably a summer resident. An immature male in moulting plumage was shot near the foot of the board-walk on May 26, and one other was seen September 21. Mr. Bacon mentions having seen one specimen from this locality.

96. **Archibuteo lagopus sancti-johannis.** AMERICAN ROUGH-LEGGED HAWK.

Occurs as a rare winter visitor. One was killed by Mr. Faulkner G. Lynch in the fall of 1900, and on November 4, 1902, Mr. Bacon was so fortunate as to secure a specimen, which is now in the Carnegie Museum.

[*Aquila chrysaëtos.* GOLDEN EAGLE.

A species which may be expected to occur here as a casual visitor.]

97. **Haliæetus leucocephalus.** BALD EAGLE.

This magnificent bird is found here at every season of the year except winter. The writer met with it first on June 26, 1899, when a half dozen individuals were noted about the outside beach, and its presence at such a date naturally led to the inference that it was breeding in the immediate vicinity. This inference was strengthened the following year, when the species was repeatedly observed at dates ranging from April 9 until the end of May. Notwithstanding, nothing is more improbable than its nesting on the Peninsula. Such a large nest would easily be visible at a long distance before the trees were in leaf, but none were discovered, and common report was entirely in accord with our observations. It is said to nest, however, at various points on the mainland along the lake bluff (Northeast, Girard, etc.) but the Peninsula is evidently a favorite rendezvous and feeding-ground. Most of the individuals seen are immature birds, although some are apparently adult. It is no uncommon thing for as many as a half dozen to be in sight at once, sailing about overhead, or perched in a commanding position in some tall tree. They frequent all portions of the Peninsula, but perhaps are most apt to be met with about

Long Pond, where the high timber affords convenient sites for perching, and along the outside beach, where they find abundant food in the shape of dead fish, and, at certain times, large numbers of Long-tailed Ducks cast up on shore. They are at all times shy and difficult of approach, but sometimes fly unwittingly within range. Thus two specimens were secured, on May 14 and 16 respectively, both in the strip of woods at the foot of Ridge Pond. The first had a head and tail of mottled brown and white, the other was a younger bird, with no trace of white. Eagles were not so often observed in the fall months, and none after November 6. Doubtless the freezing over of the lake cuts off their accustomed supply of food, so that they are compelled to move southward for the winter.

[*Falco peregrinus anatum.* Duck Hawk.

A species which should occur in this locality, casually at least, as Dr. J. M. Wheaton (*Birds of Ohio*, 1882, 423) says it "is not uncommon in the vicinity of Cleveland," while a more recent record from Erie County, Ohio (May 29, 1893, one male shot) is given by Mr. Carl Tuttle (*Auk*, XII, 1895, 191).]

98. **Falco columbarius.** Pigeon Hawk.

Occurs as a transient at irregular intervals in the spring and fall, being perhaps most numerous at the latter season. Mr. Sennett has specimens taken April 26 and September 24, 1875, and September 16, 1877. Mr. Bacon has shot examples on March 28, 1895, October 24, 1896, and May 3, 1900. We did not meet with the species in 1900 save during the fall migration. One shot September 18 by Mr. Simpson was in pursuit of Flickers, which were quite numerous just at that time. A number were seen and one was shot September 20. Others were noted September 27, October 6, and October 26.

99. **Falco sparverius.** Sparrow Hawk.

The present species is the most common hawk of this region, at least on the mainland, and occurs as a summer resident, breeding in suitable situations throughout. It is not very often observed on the Peninsula, however.

100. **Pandion haliaëtus carolinensis.** Fish Hawk; Osprey.

Of occasional occurrence in the spring and fall. One was noted on May 7, 1900, and once or twice subsequently. It has been noted by Mr. Bacon on the following dates: May 26, 1890; May 30, 1896; April 20, May 4, May 24, 1902. Most of these dates, it will be noted, fall within the known nesting season of the species, and it is possible that it may breed occasionally within our limits, although

there is no positive evidence as yet to this effect. It is known to go sometimes a long distance from its nest in search of food, and the individuals observed may have been nesting somewhere on the mainland. It was seen on August 26 and 29, 1900, also by Mr. Simpson in September of both 1900 and 1902.

[*Strix pratincola*. AMERICAN BARN OWL.

There are several Erie County records for this owl, but none of them happen to fall within the limits of the present paper. Doubtless it will be detected in due time, however.]

101. **Nyctalops wilsonianus.** AMERICAN LONG-EARED OWL.

Asio wilsonianus, COUES, Check-List, 1882, 81. — A. O. U. Check-List, 1883, 198, and of most recent authors.

Nyctalops wilsonianus, STONE, Auk, XX, 1903, 275.

This owl is no doubt a resident species, but on account of its nocturnal habits is seldom observed, and may be much more common than the records indicate. There are four specimens from Erie in Mr. Sennett's series, taken on the following dates: April 1 and November 13 (two), 1875, and October 19, 1889.

102. **Nyctalops accipitrinus.** SHORT-EARED OWL.

Asio accipitrinus, NEWTON, Yarrell's British Birds, ed. 4, I, 1872, 163. — A. O. U. Check-List, 1883, 198, and of most recent authors.

Nyctalops accipitrinus, STONE, Auk, XX, 1903, 275.

"Occurs as a regular migrant, most numerous in the fall, and some seaons almost common. September 28 (1896) is its earliest recorded autumnal appearance, while the latter part of October marks the arrival of the bulk of the individuals. I have never observed it in the winter, although it may occur occasionally at that season. On the other hand, it is possible that it may breed. Thus, on July 27, 1897, I shot one of these birds in a grassy spot where I have often found them in spring and fall, and again, on July 10, 1902, I found an individual under similar circumstances. Upon the latter occasion I could not induce the bird to leave the locality, although I could find neither nest nor young birds. It is usual to flush these owls in some grassy field or marsh, but on one occasion I surprised one in an apple-tree." To Mr. Bacon's account above quoted the writer can add nothing from personal experience. There are three specimens in Mr. Sennett's collection, two of which were captured on dates that appear to be respectively the earliest fall and latest spring records: September 22, 1875, and April 26, 1875.

103. **Syrnium varium.** BARRED OWL.

A specimen of this owl, taken October 20, 1891, was secured by Mr. Bacon from a gunner, and mounted birds of local origin are often seen in the hands of private parties, so that it is probably regularly distributed as a permanent resident.

104. **Scotiaptex nebulosa.** GREAT GRAY OWL.

A very rare or accidental winter visitor. "Mr. Geo. B. Sennett tells me one was found a few years ago in the smoke stack of a steamboat at Erie city." (Warren, *Birds of Pennsylvania*, 1890, 152).

[*Cryptoglaux tengmalmi richardsoni.* RICHARDSON'S OWL.

Nyctala tengmalmi richardsoni, A. O. U. Check-List, 1883, 200, and of most recent authors.

Cryptoglaux tengmalmi richardsoni, RICHMOND, Auk, XVIII, 1901, 193.

This owl is a very rare winter visitor in the northern United States. An example in the Carnegie Museum, taken in Allegheny County, Pennsylvania, March 12, 1896, by Mr. D. A. Atkinson, is the only known record for the State (see Rhoads, *Auk*, XVI, 1899, 311), but if found anywhere in Pennsylvania it should be at Erie.]

105. **Cryptoglaux acadica.** SAW-WHET OWL.

Nyctala acadica, A. O. U. Check-List, 1883, 200, and of most recent authors.

Cryptoglaux acadica, RICHMOND, Auk, XVIII, 1901, 193.

This diminutive owl is doubtless a resident species, but has been most frequently detected during the colder portions of the year. Its small size and retiring disposition combine to shield it from frequent observation, so that it may be much more common than the available records indicate. Mr. Sennett has two examples, labeled respectively January 3 and June 4, 1875. Mr. Bacon took one specimen October 27, 1888, and has received from other parties individuals captured February 5, 1892, and November 15, 1894, these, with a single bird noted October 18, 1902, comprising all the instances of its occurrence that have come to his notice.

106. **Otus asio.** SCREECH OWL.

Megascops asio, STEJNEGER, Auk, II, 1885, 184.—A. O. U. Check-List, 1883, 200, and of most recent authors.

Otus asio, STONE, Auk, XX, 1903, 275.

Doubtless a permanent resident here as elsewhere, quite common, but not often observed. One was seen April 4, 1900, in a hollow stub on the wooded bluff at the head of the bay. The species was heard calling on the Peninsula near Misery Bay on the evenings of September 30 and November 5. Mr. Sennett has one specimen, March 20, 1876.

107. **Asio magellanicus virginianus.** GREAT HORNED OWL.

Bubo virginianus, BONAPARTE, Geographical and Comparative List, 1838, 6.—A. O. U. Check-List, 1883, 202, and of recent authors generally.

Asio magellanicus virginianus, OBERHOLSER, Proc. U. S. N. M., XXVII, 1904, 188.

Resident throughout the year, according to Mr. Bacon, in suitable situations in tracts of heavy timber, and probably more plentiful, on the whole, than any other owl, excepting the last species. We did not meet with it in 1900.

108. **Nyctea nyctea.** SNOWY OWL.

A rather rare winter visitor. The following note on its occurrence refers to Northeast, Erie County: "A party on a recent gunning expedition shot a large white or snowy owl near this place that measured five ft. six in. from tip to tip of wings. Only one wing was injured and it was captured alive, and is now on exhibition in a prominent show window. It is the first I have heard of captured in this section for some years." ("A. A. A.," *Forest and Stream*, XXVIII, February 3, 1887, 24.) Mr. Sennett secured two specimens near Erie, one November 22, 1874, "cedars back of lake," the other November 6, 1876, "head of bay." Mr. Bacon has personally seen but one individual (December 22, 1894). Other specimens have, however, come to his notice, killed by various parties on the following dates: April 13, 1895, March 8, 1902, November 3, 1902 (a very white bird), November 18, 1902. Two of Mr. Bacon's specimens and one of Mr. Sennett's are now in the Carnegie Museum.

[*Surnia ulula caparoch.* AMERICAN HAWK OWL.

A species that may occur as an accidental winter visitor in this section.]

109. **Coccyzus americanus.** YELLOW-BILLED CUCKOO.

A summer resident, apparently not very common. The only examples thoroughly identified in 1900 were recorded May 22 and September 21, dates which perhaps represent the approximate time of the arrival and departure of the species.

110. **Coccyzus erythrophthalmus.** BLACK-BILLED CUCKOO.

Like the last a summer resident, and probably the more common of the two species, frequenting the shrubbery and woodland. Specimens were taken May 30 and September 13, 1900, and in Mr. Sennett's collection there is a specimen marked May 11, 1875, which possibly represents an arrival.

111. **Ceryle alcyon.** Belted Kingfisher.

"Common as a summer resident from April to November, and on one occasion (January 23, 1895) I saw a single bird in midwinter, after the bay had been frozen for several weeks." (Bacon). It is not very common, however, on the Peninsula during the breeding season proper, doubtless owing to the scarcity of suitable nesting sites. In 1900 it was first observed April 7, and by April 11 had become quite numerous along the bay shore and margins of the ponds. This comparative abundance continued until about the first of May, when the nesting season begins. The only nest discovered was in a low bank on the Peninsula about the middle of the shore of the bay. It was found May 25, but not examined. The species was seen almost daily in the fall up to October 12, and once again November 1.

112. **Dryobates villosus.** Hairy Woodpecker.

A permanent resident here as elsewhere throughout its range, preferring heavy timber. An occasional bird is seen on the Peninsula, and Mr. Bacon thinks it is more common than the Downy Woodpecker.

113. **Dryobates pubescens medianus.** Downy Woodpecker.

Like the last, a permanent resident, not uncommon in its chosen haunts, and, except in the nesting season, often associating with other of the small resident and winter resident birds.

114. **Sphyrapicus varius.** Yellow-bellied Woodpecker.

A transient visitant, noted by Mr. Bacon as being in some years quite abundant in the spring migration. His earliest spring note is March 31, 1893. Mr. Sennett has several specimens, one taken April 10, 1875. According to our observations in 1900 it was tolerably common in the spring, but much more numerous in the fall. The first was seen April 18, but from lack of data the length of its stay cannot be given. In the autumnal movement September 18 was the date of its first appearance, and by September 26 it had fully reached the limit of its abundance, and did not finally disappear until October 12. It was particularly partial to wild cherry trees, and was accordingly most abundant along the board-walk, where these trees are numerous. Mr. Sennett's expressed opinion that the species breeds occasionally (*Birds of Pennsylvania*, 1890, 169) refers in all probability to the interior of Erie County.

[*Ceophlœus pileatus abieticola*. NORTHERN PILEATED WOODPECKER.

This woodpecker is not an uncommon species in the interior of Erie County, but Mr. Bacon has never seen or heard of one within six miles of the lake, so that it does not properly come within the scope of the present list, although it may yet be detected. True, there are two specimens in Mr. Sennett's collection, labeled without qualification "Erie", but the correctness of the label in this respect is open to question, not only in view of Mr. Bacon's statement as above, but also because Mr. Sennett himself seems to intimate that this species is found in Erie County only in the vicinity of Lake Pleasant (*Birds of Pennsylvania*, 1890, 171).]

115. **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.

A common summer resident (on the mainland) from April to October, and occasionally winters here. Mr. Bacon contributes the following note on this point: "On several days in the winter of 1888–89 (December 29, 1888, January 3 and 5, 1889, to be more exact) I observed this bird in small parties of eight or ten individuals each, and there seemed to be some in every woods." The specimens in Mr. Sennett's series bear the following dates, abundantly confirming the general statement: November 6, 14 and 17, 1874; February 25 and May 18, 1875; February 9, 1876; February 11, 1878; September 24 and October 27, 1888. Definite records of this species nesting on the Peninsula are lacking, and, indeed, it would seem not to occur there during the breeding season at all. In 1900 it was first observed April 30, and a number were noted again on May 8 and 9. In the fall it was not detected until September 21, but from that time until the end of the month was very much in evidence, frequenting the tall trees along the board-walk and elsewhere. By October 8 the last had departed.

116. **Centurus carolinus.** RED-BELLIED WOODPECKER.

The seasonal status of this species here is uncertain. It seems to have come under the notice of observers in the northern part of its range mostly in the winter, but this is no indication that it does not occur save at that season, as the writer has satisfied himself in at least one case by persistent work. Its occurrence at Erie is no exception to the general rule, the records resting on four specimens in Mr. Sennett's collection bearing dates respectively of October 6, 10, and November 11, 1874, and February 8, 1876.

117. **Colaptes auratus luteus.** NORTHERN FLICKER.

The Flicker is a common summer resident, not known ever to stay through the winter, although, according to Mr. Bacon's experience, remaining sometimes quite late (November 20, 1897; December 1,

1888), and returning usually in March (March 12, 1898; March 20, 1903). Its arrival was overlooked in the spring of 1900, or at least unrecorded, although a single specimen was taken April 17. In the fall there was an immense movement of these birds beginning about September 15, and continuing to near the end of the month. During this period they were exceedingly abundant, thronging the wooded portions of the Peninsula, and apt to be met with even in the open. Like the Yellow-bellied Woodpeckers, they seemed partial to wild cherry trees, and often a half dozen or more could be seen in one such tree. The species was present in diminished numbers through October, and the last record was of a single bird seen September 17, with a party of Meadowlarks on the sand-barrens near the outside beach.

118. **Antrostomus vociferus.** Whip-poor-will.

A summer resident species, which, curiously enough, was found by us only in the tract of woodland at the foot of the board-walk, between Yellow Bass and Graveyard Ponds, where it seemed to be not uncommon after its arrival on May 1. Mr. Bacon, however, thinks these birds were transients, as he has seen the species on but two occasions, (September 4, 1899; July 19, 1902), and has heard its notes only on a few occasions in May, and hence considers it rare on both the Peninsula and the mainland during the summer. Mr. Simpson reports having taken a specimen north of Niagara Pond on April 26, 1902.

119. **Chordeiles virginianus.** Nighthawk.

Not uncommon as a summer resident. It is, however, much more numerous during the migrations than in summer, but occasional birds are seen at the latter season, and no doubt it breeds regularly. In 1900 its arrival was noted May 16, and one was seen the next day. The only other record is of a single bird seen and positively identified on September 23, flying over at Crystal Point. This is a very late date indeed. "On May 17, 1894, I observed a flight of these birds, in small parties of from two to six individuals, going eastward along the Lake Erie shore. They seemed to follow at fairly regular intervals, and during the two hours that I was able to observe them, I saw probably one hundred birds. On August 28, 1901, a similar flight was noticed by some of my friends, a peculiar circumstance connected with which was that the birds, although in fall migration, also followed the lake shore to the east, the same course as pursued in the spring." (Bacon).

120. **Chætura pelagica.** CHIMNEY SWIFT.

This species occurs as a summer resident, and perhaps nests on the Peninsula, having been seen by the writer about the lighthouse buildings in June, 1899. It is also rather common in the city, but its first appearance in 1900 was overlooked. In the fall the last was seen September 20, this being, indeed, our only record at that season, but in Mr. Sennett's collection there is a specimen taken as late as October 10 (1874).

121. **Trochilus colubris.** RUBY-THROATED HUMMINGBIRD.

Here as elsewhere in the United States a summer resident, apparently not very common. It was not observed in the spring of 1900 until May 21, but its real arrival probably took place two or three weeks earlier. In the fall it was noted last on September 9.

122. **Tyrannus tyrannus.** KINGBIRD.

A common summer resident on both the Peninsula and the mainland, appearing early in May (May 7, 1893; May 8, 1901, Bacon). In 1900 its arrival was recorded May 3, when a half dozen individuals were seen together at Crystal Point. It was noted but twice in August, and the last was seen on September 1.

123. **Myiarchus crinitus.** CRESTED FLYCATCHER.

A summer resident, not very common, at least on the Peninsula, where it is confined to the wooded ridges. It may possibly be more numerous on the mainland, where it was first observed in the spring of 1900 on May 3, at the "Head." In the fall the latest record was September 10, the period of its stay being thus but little longer than that of the Kingbird.

124. **Sayornis phœbe.** PHŒBE-BIRD.

A common summer resident in this general region, although not actually detected as such on the Peninsula, the character of the ground being unsuited to its needs. However, it was quite common there for a time during the spring migration, and also in the fall to a less extent, haunting the margins of the various ponds. April 3 was the date of its first appearance, and it was recorded as common on April 12. There were two records each for August and September, and the last was seen October 4. Additional records for the spring migration are March 29, 1875 (Sennett), and March 31, 1892 (Bacon).

125. **Nuttallornis borealis.** OLIVE-SIDED FLYCATCHER.

Contopus borealis, BAIRD, Birds of North America, 1858, 188.—A. O. U. Check-List, 1883, 233, and of recent authors generally.

Nuttallornis borealis, OBERHOLSER, Auk, XVI, 1899, 331.

A rare transient visitant in this locality. A single female shot by Mr. Simpson, September 18, 1900, in an open grove just east of Niagara Pond, constitutes the only record.

126. **Horizopus virens.** WOOD PEWEE.

Contopus virens, CABANIS, Journal für Ornithologie, III, 1855, 479.—A. O. U. Check-List, 1883, 234, and of most recent authors.

Horizopus virens, OBERHOLSER, Auk, XVI, 1899, 332.

Fairly common as a summer resident, and noted as such by the writer in June of 1899. The following season its arrival was observed May 14, and it soon became numerous. Although repeatedly noticed in the scattered trees of the eastern end of the Peninsula, it was much more common in the high, thick woods of the central and western portions. There seemed to be a marked movement of this species beginning about September 11, and continuing for about two weeks. During this period it was not unusual to meet with many individuals together in the woods, usually in company with other forest-loving birds, continually on the move in the tree-tops. The time of nesting is indicated by the label of a specimen in Mr. Sennett's collection, dated June 22, 1875, which states that it was taken "with the nest and three eggs."

127. **Empidonax flaviventris.** YELLOW-BELLIED FLYCATCHER.

Occurs as a transient visitant, apparently rare in the spring, but rather common in the fall. The only spring record in 1900 referred to a single bird taken May 26. As early as August 25 it had reappeared, and was noted at frequent intervals up to October 3, the date of its last record in the fall. Its favorite resorts were the tracts of dense shrubbery along the ponds, where it contrived to keep well hidden.

128. **Empidonax virescens.** ACADIAN FLYCATCHER.

The Acadian Flycatcher appears to be a regular and rather common summer resident, both on the mainland and Peninsula. It was first met with by the writer on June 26, 1899, in a dense growth of pines in the rear of the north lighthouse, and here a specimen was secured on May 15 of the following year, constituting the earliest spring record. An old nest was discovered here also. On May 28 it was found quite commonly in the deep woodland along the lake shore near the "Head." This appears to be one of the northernmost localities where this relatively southern species is known to breed regularly. Mr. Sennett has a specimen taken August 20, 1888, but we did not meet with it in the fall.

129. **Empidonax traillii alnorum.** ALDER FLYCATCHER.

This interesting little flycatcher may breed in this locality, but has been certainly detected only during the spring migration, and appears to be quite rare. A single specimen was taken May 26, 1900, in thick shrubbery. Mr. Bacon secured one bird on May 21, 1894.

130. **Empidonax minimus.** LEAST FLYCATCHER.

Tolerably common as a summer resident, at least on the Peninsula. It was first observed in 1900 on May 5, and repeatedly thereafter until the end of the month. It is partial to tracts of shrubbery, as is also the Yellow-bellied Flycatcher, but is more apt to be found on their outskirts and in openings than that species. It was unaccountably rare in the fall, and was noticed then on but two occasions—September 12 and 27.

131. **Otocoris alpestris.** HORNED LARK.

Occurs as a winter resident only, but none have been identified within late years, although special search has been made at the times when it would be expected to occur. Such negative evidence does not, of course, preclude its regular occurrence. There are eight mounted specimens of this form in Mr. Sennett's collection, shot in February and April, and two skins dated respectively February 14 and March 24, 1875. (See Dwight, *Auk*, VII, 1890, 142.)

132. **Otocoris alpestris praticola.** PRAIRIE HORNED LARK.

One of the common and characteristic birds of this general region, where it occurs at all seasons of the year, although it is probable that many or all of the winter individuals come from farther north. It breeds quite early in the season: thus, Mr. Bacon found a nest with eggs March 31, 1896, while another nest discovered by him May 1, 1901, shows that the nesting season is sometimes prolonged. It was noted in the spring of 1900 from March 21, when our observations began, throughout the season, but curiously enough, it was not recorded from the Peninsula until May 31, when an immature example was secured there, all the other records referring to single birds or pairs in open fields on the mainland, or seen flying over. Evidently it breeds here, and retires to the Peninsula with its young when they are able to fly. In June of 1897 and 1899 it was found on the outside beach, in the latter year in great abundance, occurring in small parties, perhaps formed by the union of several family groups, as they were composed largely of immature birds, which were quite tame

and easily approached. In the fall of 1900, too, it was quite abundant here also, particularly in October, associating with the Snow Bunting, but no very large flocks were observed. Through the winter, however, flocks of considerable size are often found on the Peninsula, and even more frequently on the mainland.

133. **Cyanocitta cristata.** Blue Jay.

The Blue Jay is a permanent resident, and at times very abundant, being one of the few conspicuous birds in the heavy timber of the Peninsula in the early spring, also in the fall, in October. The woodland on either side of Long Pond is a favorite haunt. A nest was discovered in a bushy sapling at the foot of Ridge Pond in May, 1900, but was deserted before all the eggs were laid.

134. **Corvus corax principalis.** Northern Raven.

This is given by Mr. Sennett as a straggler, and on the questionable authority of Dr. John W. Detwiller as having been seen once in winter (Warren, *Birds of Pennsylvania*, 1890, 202). Wilson speaks of the Raven "as entirely supplanting the Crow on the southern shores of Lake Erie" (in Ohio), but this was almost one hundred years ago (*American Ornithology*, IX, 1825, 136).

135. **Corvus brachyrhynchos.** American Crow.

Corvus americanus, Audubon, Ornithological Biography, II, 1834, 317, and of most authors.

Corvus brachyrhynchos, Brehm, Beiträge zur Vögelkunde, II, 1822, 56. — Richmond, Proceedings Biological Society of Washington, XVI, 1903, 125.

Common, according to Mr. Bacon, during all but the winter months, and occasionally seen at that season also. It arrives very early in the spring (February 22, 1894: February 28, 1893), and by the end of April the nests usually contain eggs. It was numerous on March 21, 1900, at the inception of our work, feeding about the shores and the edge of the ice at the mouth of Mill Creek, much in the manner of the Herring Gull. A large flock was observed west of the city the same day. Although unquestionably breeding quite commonly on the Peninsula, the only instance that came to our notice was that of a nest found May 9 at the head of Yellow Bass Pond. In the fall it was most abundant in October, and was noted up to November 10. It was frequently found along the outside beach, feeding on living and dead animal matter cast upon the shore. Mr. Bacon contributes the following interesting observation on the feeding habits of this bird: "Once during the summer of 1886 I saw a Crow fly out of an evergreen

with his 'hands full,' so to speak. A shot induced him to drop his burden, which proved to be a Flicker, just at its last gasp. Never before or since have I caught a Crow in the act of killing a bird, and the size of the bird attacked was doubly surprising."

136. **Dolichonyx oryzivorus.** BOBOLINK.

In the meadows of the mainland this species is a very common summer resident, the country being particularly adapted to its needs. Mr. A. M. Howes has a set of four eggs collected near Erie in June, 1894. In 1900 the first migrant of the season was seen May 7 (Bacon), which is a fair average date of arrival. The species was observed on the Peninsula but once in the spring—May 30, when a single male was taken along the edge of Big Pond. In the fall migration a flock of about thirty was noted September 8, in some weeds and bushes at the mouth of Niagara Pond. Mr. Bacon says of it at this season: "They begin to flock early in August, and by the end of the month they can be heard overhead every night on their way southward. I have seen occasional flocks come into the wild rice in the Peninsula ponds, but I think they do not remain here more than one night. They never approach the Red-winged Blackbird in abundance, straggling flocks of from twenty to forty birds being the rule. September 24, 1897, I saw several hundred in a clover field. October 1, 1901, I saw between two and three hundred in a stubble field west of the city. The latter date is very close to the time of the final departure of the species for the south."

137. **Molothrus ater.** COWBIRD.

Common on the mainland as a summer resident from March (March 22, 1893, Bacon) through September (October 1, 1874, Sennett), after which it is seldom seen. It often associates with the Red-winged Blackbird. On the Peninsula it must evidently be quite uncommon, as it certainly entirely escaped notice there in the season of 1900.

138. **Xanthocephalus xanthocephalus.** YELLOW-HEADED BLACKBIRD.

An accidental visitant from the west. One specimen, a male, was shot by Mr. Bacon August 22, 1896, on the Peninsula near "Big Bend." It was alone.

139. **Agelaius phœniceus.** RED-WINGED BLACKBIRD.

A very common summer resident, to all appearances breeding quite plentifully on the marshes of the Peninsula, where it was noted by the

writer in June of 1897 and 1899, although no nests were found, either then or in 1900. "The date of its arrival," Mr. Bacon writes, "varies considerably, depending as it does upon the general advance of the season, and has been observed from March 7 (1902) to 30 (1893). In August and September this species resorts by thousands to the Peninsula, going to the ponds containing wild rice late in the afternoon, and starting back to the mainland soon after sunrise. Occasional flocks remain in the ponds through the day, but the main army make the trips to the grain fields and back again daily. In making these trips they follow the neck of the Peninsula at its western end, or else the breakwater pier at the eastern end, seldom crossing the bay where it is of any considerable width. This bird is supposed by most of the gunners to be the 'reedbird' of the game laws, and many are slaughtered annually for food." Their flesh is said to be very good. A curious albinescent specimen, showing the pattern of the female in a bleached condition, was taken by Mr. Bacon September 19, 1902, and sent to the Carnegie Museum. November 12, 1900, is the latest fall date upon which its presence has been recorded.

140. **Sturnella magna.** Meadowlark.

A summer resident, quite common in the meadows and cultivated fields of the mainland, but naturally not found breeding on the Peninsula, where it was only detected occasionally during the fall migration, a few being seen in the sandy barrens bordering the outside beach as late even as November 17, 1900. Mr. Bacon says that it is seen occasionally through the winter months, as for instance on January 1, 1902, although ordinarily it arrives from March 10 (1894, 1898) to 29 (1896, 1899), and remains until November 5 (1896) to 29 (1894).

141. **Icterus spurius.** Orchard Oriole.

This is given by Mr. Bacon as a regular but not common summer resident, breeding in suitable situations. It was not met with in 1900, but a single individual was detected on the Peninsula June 17, 1897, in open woodland. Mr. Sennett took one specimen May 10, 1875.

142. **Icterus galbula.** Baltimore Oriole.

Also a summer resident, much oftener seen and better known than the last species, but hardly to be called more than tolerably common. Its arrival occurs early in May (May 6, 1893, Bacon), in 1900 on May 8, when individuals were observed among the shade trees of the

city as well as in the woodland on the Peninsula, and by the middle of the month its normal summer abundance had been reached. It was not observed by us in the fall, probably having passed south before our observations at that season began. August 23, 1888, is the date of a specimen in Mr. Sennett's series.

143. **Euphagus carolinus.** RUSTY BLACKBIRD.

Scolecophagus carolinus, RIDGWAY, Proceedings United States National Museum, VIII, 1885, 356. — A. O. U. Check-List, 1883, 253, and of most recent authors.

Euphagus carolinus, RICHMOND, Proceedings Biological Society of Washington, XVI, 1903, 128.

A regular but not very common transient visitant, the bulk of the flight passing through in April and October. Two specimens seen and secured April 19, in an open grove east of the city, constituted our only record for 1900. Mr. Bacon's recorded dates of arrival and departure are April 6 (1900) and May 17 (1902) for the spring, and September 27 (1893) and October 21 (1902) for the fall. Mr. Simpson has observed it about the ponds of the Peninsula as late as November 18 (1902). "Its notes, which I have heard once or twice, resemble those of the Bronzed Grackle, but are more subdued." (Bacon).

144. **Quiscalus quiscula æneus.** BRONZED GRACKLE.

Common (on the mainland) as a summer resident from March (March 11, 1902, Bacon; March 14, 1876, Sennett) to September, seldom remaining in any numbers later in the season, although on one occasion recorded by Mr. Bacon as late as November 24 (1888). It is not known to breed on the Peninsula, where, indeed, it is seldom seen at any time. One was shot near the shore of Misery Bay, April 11, 1900. It does not approach the Red-winged Blackbird in abundance, nor does it mix with that species to an appreciable extent.

145. **Hesperiphona vespertina.** EVENING GROSBEAK.

Dr. Warren speaks of having met with this species in Erie County during the season of 1889–90, when, as is well known, it appeared over a vast territory far to the eastward of its usual range (*Birds of Pennsylvania*, 1890, 225). Mr. Bacon says that during this incursion two specimens were shot at Erie, and mounted by a local taxidermist.

146. **Pinicola enucleator leucura.** PINE GROSBEAK.

A rare and irregular winter visitant. In Mr. Sennett's collection there are two specimens, females, taken February 11, 1875. Mr. Bacon includes the species in his list on the strength of a specimen

killed some twenty years ago (1882), one of a flock feeding on the berries of the mountain-ash.

147. **Carpodacus purpureus.** PURPLE FINCH. A regular transient in spring and fall, breeding sparingly however. Mr. Bacon speaks of having heard it in midsummer in a tract of evergreens, and Mr. Sennett has young birds in his collection dated July 12, August 2, and August 6, 1888. May and September seem to be the months when it is most numerous, but it is not impossible that it occurs during colder weather, or even in the winter. May 2 and September 19 were the only occasions upon which it was detected on the Peninsula in 1900.

[*Loxia curvirostra minor.* AMERICAN CROSSBILL.

This species doubtless occurs as an irregular winter visitant, and should have been detected long since.]

148. **Loxia leucoptera.** WHITE-WINGED CROSSBILL.

A winter visitant, rare and irregular. In the winter of 1874-75 there must have been somewhat of a flight here, as Mr. Sennett has four specimens taken during that season: December 17, 1874, January 2 (two) and March 22, 1875. A more recent record refers to a specimen secured alive on the Peninsula about October 20, 1903, by a gunner, who at last accounts still had the bird in captivity, where it appeared to be doing well.

149. **Acanthis linaria.** REDPOLL.

Another winter resident species, possibly of regular occurrence, although it has been detected so far during two seasons only. There are seven specimens in Mr. Sennett's collection, all taken in February, 1875 (February 4, 5, 24, 25 and 26). Mr. Bacon has met with the species but once—March 31, 1893—when a small flock was seen on the Peninsula, in the tops of some young poplars, and one specimen was secured.

150. **Acanthis linaria rostrata.** GREATER REDPOLL.

Also a winter resident, a single specimen having been obtained by Mr. Bacon from the flock of Redpolls seen March 31, 1893, as noted above. Under the circumstances it would of course be impossible to say in what proportion the two forms were. The present record seems to be the first for Pennsylvania.

151. **Astragalinus tristis.** AMERICAN GOLDFINCH.

A common species in the more open woodland areas, occurring—save in the nesting season—in scattered flocks of greater or less extent.

It is a permanent resident throughout the year, but is less commonly observed, however, in the winter.

152. **Spinus pinus.** PINE FINCH.

The Pine Finch is to be classed as a migrant or possibly a winter resident, apparently not common. On May 24, 1900, a flock of fifteen or twenty were met with in the scattered trees north of Misery Bay, and two specimens were shot.

153. **Passerina nivalis.** SNOW BUNTING.

An abundant and regular winter resident, more numerous, however, in late fall and early spring than in the depth of winter. They throng the outside beach in flocks of from a few birds up to a hundred or more, while stray individuals are occasionally found along the shore of the bay. Sometimes they are found associated with Prairie Horned Larks, but as a rule they keep separate. They usually keep close to the edge of the water, and although not especially shy, are very restless and erratic in their movements, flying in a jerky, hesitating fashion, as if about to alight every instant. For a species of such cold weather proclivities, the date of its arrival in 1900—October 17— seems remarkably early, yet by October 22 it was already recorded as common. That this is not exceptional, however, is shown by Mr. Bacon's record of the same date in 1892, and of October 21 in 1901, as the time of the first fall appearance of the species in those years, while Dr. Warren says that in 1889 one was shot as early as October 12 (*Forest and Stream*, XXXIV, February 13, 1890, 64). He speaks also of having seen a flock of two hundred and fifty or three hundred birds near the Soldiers' Home in November of the same year. Mr. Bacon mentions that they are often seen on the fields of the mainland as well as on the Peninsula during their sojourn, which lasts until sometime in March.

154. **Calcarius lapponicus.** LAPLAND LONGSPUR.

Dr. Warren's statement that this species is a tolerably common and regular winter visitor about Lake Erie (*Birds of Pennsylvania*, 1890, 233) is not fully confirmed by the available evidence. Mr. Sennett took at least three specimens on October 3, 1889 (see Warren, *Forest and Stream*, XXXIV, February 13, 1890, 64), and two on March 25, 1875, these two dates being respectively the earliest for the fall and latest for the spring. Mr. Bacon first detected it on March 3, 1894, when a flock of a half dozen was seen and one specimen

secured. No more were met with until February 28, 1902, when a few were found in a field west of the city, and two specimens taken the following day. Again, in 1903, on March 11 and 13, still others were found, and on this occasion five specimens were taken. Two examples were secured on March 8, 1904. "They seem to be much wilder and more difficult to procure than the Snow Buntings, with which they often associate." Future research may show that this bird occurs regularly every season, but the above are all the known records. Doubtless it is found also through the months intervening between October and March.

155. **Pooecetes gramineus.** Vesper Sparrow; Grass Finch.

"A summer resident, common, arriving the latter part of March (March 31, 1893), and soon becoming numerous. Nests have been found as early as May 7 (1893), and as late as July 2 (1892), in the latter case possibly a second nesting." (Bacon.) It was observed on the sandy barrens of the Peninsula on April 18, 1900, in straggling flocks, reminding one of those of the Slate-colored Snowbird in their behavior. In the fall the last bird was noted October 27.

156. **Passerculus sandwichensis savanna.** Savanna Sparrow.

Possibly a summer resident on the mainland, and so given by Dr. Warren on Mr. Sennett's authority (*Birds of Pennsylvania*, 1890, 234), but the exact locality is indeterminate. The only specimen in Mr. Sennett's collection is dated September 12, 1875, and by all other observers it has been noted only as an uncommon transient in the autumnal migration. The writer shot a specimen on the breakwater August 30, 1893, and Mr. Bacon took specimens on September 16 and 30 of the same year. In the season of 1900 it was noted on September 6, 14, and 15, specimens being secured on each occasion. The sand-barrens along the outside beach were its chosen haunts at this season.

157. **Coturniculus savannarum passerinus.** Yellow-winged Sparrow.

In a section such as this, so well adapted to its needs, the present species would be expected as a common summer resident, frequenting the open country of the lake shore plain. It is mentioned as breeding by Mr. Sennett (*Auk*, VI, 1889, 198) in such a way as to leave the inference that the circumstance deserves special remark, and, indeed, it is given as a rare breeder in this section on the authority of the same observer (Warren, *Birds of Pennsylvania*, 1890, 235).

It came under our notice but once, May 28, 1900, when one was seen in a meadow near the "Head." Mr. Sennett has two specimens, taken August 7, 1888.

[*Ammodramus henslowii.* HENSLOW'S SPARROW.

Careful search was made for this sparrow on the Peninsula, which abounds with spots suited to the bird's needs, but without success, and it remains one of the species yet to be detected.]

158. **Ammodramus nelsoni.** NELSON'S SHARP-TAILED SPARROW.

This little-known sparrow was added to the avifauna of Pennsylvania on September 23, 1893, when a single bird was taken at the mouth of Mill Creek by Mr. Bacon. This remained the only record up to the season of 1900, when our field work showed it to be a rare spring but quite common fall transient visitant on the Peninsula. A single specimen taken in Niagara Pond May 24 was the only spring record. In the fall it was first certainly identified September 13, and was probably seen several days previous to that date, while there are no records later than October 6. Although found about nearly all of the ponds, Niagara and Big Ponds were its favorite resorts. The birds were wont to frequent the thin growth of rushes along the water's edge, where they would run and skulk and hide with the utmost dexterity, flushing only when closely pressed, and soon dropping down again, sometimes flying back to the growth of weeds and bushes adjoining. In such cases they were usually easily secured by noting where they alighted and "squeaking" them up into sight. While there is no reason apparent why this species should not pass the summer here, it is unlikely that it does so, judging from our present knowledge of its distribution at that season, from which it appears to be extremely local.

[*Chondestes grammacus.* LARK SPARROW.

The eastward extension of the range of this species along the lake shore plain from Ohio to Pennsylvania may reasonably be expected. It has been found breeding at Oberlin, Ohio (McCormick, *Auk*, IX, 1892, 397).]

159. **Zonotrichia leucophrys.** WHITE-CROWNED SPARROW.

A tolerably common spring and fall transient. May 1, 1894, is the earliest available date in the spring, while a specimen secured May 17, 1900, constitutes the latest date, as well as the only occurrence observed by us at that season. The first was seen in the fall September 19, and the migration lasted about two weeks, or until October 3. At this time it was fond of tracts of bushes and shrub-

bery in the more open situations, and was particularly numerous in some such growth north of Horseshoe Pond.

160. **Zonotrichia albicollis.** White-throated Sparrow.

Like the last a transient visitant, but much more numerous, being fairly common in the spring and abundant in the fall. At the former season it was first observed April 18 in 1900, reaching its maximum abundance May 2, and disappearing May 10. May 13, 1892, and May 15, 1875, are the latest spring records given by Messrs. Bacon and Sennett respectively. On its return the first record was for September 15, and the last for October 29, its stay being thus about six weeks, for much of which period it was one of the most abundant of the smaller land-birds, swarming everywhere in suitable covert, as for instance all along the board-walk. October 28, 1888, is the date of a late fall migrant in Mr. Sennett's collection.

161. **Spizella monticola.** Tree Sparrow.

Abundant as a winter resident, probably more numerous, on the whole, than any other native bird at that season, haunting the many and extensive tracts of shrubbery, bushes, and weeds on the Peninsula, and found usually in straggling flocks of greater or less extent, often associated with other species of kindred haunts and habits, as the Slate-colored Snowbird for instance. None were noticed later in the spring of 1900 than April 18, while the first fall record fell on November 5, although the real arrival was probably earlier by a week or more, as indicated by a specimen in Mr. Sennett's collection taken October 26, 1889. An interesting albino was shot April 16, 1900: it was a dirty white color, shaded with light russet brown on the wings, tail, and back, the whole plumage being much worn.

162. **Spizella socialis.** Chipping Sparrow.

A very common summer resident in the cultivated grounds of the mainland, but not observed as such on the Peninsula, where it was noted in the fall migration only, in September and early October. April 3, 1892, is Mr. Bacon's earliest recorded spring appearance, and October 27, 1888, is the latest fall record afforded by Mr. Sennett's collection. On May 30, 1888, Mr. Bacon found three nests of this species built on the ground (*Oölogist*, Albion, N. Y., VI, 1889, 134). "They were all in orchards, in long grass."

163. **Spizella pusilla.** FIELD SPARROW.

Also a summer resident, which, like a number of other species, is far more numerous on the mainland than on the Peninsula during the nesting season. It was quite common and in full song on the sand-barrens of the Peninsula on April 18, 1900, and doubtless arrived considerably earlier. Here, too, it was rather numerous during the fall migration, in October, the last being seen October 26.

164. **Junco hyemalis.** SLATE-COLORED SNOWBIRD.

This is perhaps best classed as a winter resident, although it is comparatively seldom seen in the depth of winter, seeming to retire farther south at that season. It is very abundant in the spring and fall migrations, particularly on the Peninsula, the locality being well adapted to its needs. It is found usually in straggling companies in the waste tracts, or on the edges of shrubbery and woodland, associated with Tree Sparrows, Golden-crowned Kinglets, Black-capped Chickadees, and others. In the spring of 1900 the last was observed May 5, and on its return the first was noted September 19, although it was scarcely common until the first week in October. However, its numbers during this latter month varied considerably from day to day, the fluctuations perhaps being due to migratory movements. In the spring of 1903 the last was noted May 7 (Bacon).

165. **Melospiza cinerea melodia.** SONG SPARROW.

This familiar species is abundant on both the Peninsula and mainland, wherever there is suitable covert. An occasional bird may be seen through the cold season, so that no doubt a few winter regularly, but the bulk of the species is made up of summer residents only, coming north some time in March, when they are in full song. A nest with five eggs was found early in May, 1900, placed on the ground in the marsh at the mouth of Mill Creek.

[*Melospiza lincolnii.* LINCOLN'S SPARROW.

Little can be said of this species as a Pennsylvania bird. It is of such a retiring disposition, and passes through in spring and fall so quickly and quietly, that it is easily overlooked. It doubtless occurs here as a transient.]

166. **Melospiza georgiana.** SWAMP SPARROW.

This sparrow is a common and characteristic species of the marshes on the Peninsula, where it occurs as a summer resident, haunting the thick bushes near the margins of the ponds, and the growth of flags and cat-tails in moist places, where it generally keeps well hidden.

April 24 was the day of its recorded arrival in 1900, when it was already common and in full song. Through September it was very numerous, and the last was noted October 6. Additional dates of interest relating to its migration are April 20, 1902 (Bacon), and October 6, 1888 (Sennett).

167. **Passerella iliaca.** Fox Sparrow.

A rather uncommon transient visitant, inhabiting the densest shrubbery and tangle, usually with other small birds of kindred tastes, and very retiring in its disposition. The only spring records in 1900 are of single specimens secured respectively on April 13 and 18. Mr. Bacon has noted it on the following dates: April 18, 1893, April 11, 1895, and April 25, 1901 — the last being the latest spring record, while a specimen in Mr. Sennett's collection marked April 4, 1874, is the earliest date for that season. In the fall of 1900 October 5 and November 5 were extreme dates. Mr. Simpson reports a specimen taken as late as November 12 in 1903.

168. **Pipilo erythrophthalmus.** Towhee.

A summer resident, apparently only tolerably common during the breeding season — at least on the Peninsula — but much more numerous during the migration, frequenting the woodland thickets. "March 10, 1894, I saw a pair, which date I consider very early. A more usual date of arrival is March 31, 1899." (Bacon.) In 1900 none were noted until April 18, when it was present in some numbers. In the fall the last was noted October 11.

169. **Cardinalis cardinalis.** Cardinal Grosbeak.

A rare species so far north. Mr. Bacon is the only observer who has met with it here. "A single pair of this species is all that I have seen or heard. This pair raised a brood of young in the summer of 1892, in a thicket bordering the lake bluff, about five miles west of Erie. On August 18 I was shown the nest, containing at that time three young birds, and both parents were seen in the trees near by." It would be interesting to know where these particular birds spent the winter.

170. **Zamelodia ludoviciana.** Rose-breasted Grosbeak.

A summer resident, not very common, at least on the Peninsula, where, in 1900, it was first observed May 10 in the spring, and last on September 19 in the fall. Mr. Bacon thinks it is more common away from the lake. May 4, 1892, is his earliest date. The latest

record is furnished by a specimen in Mr. Sennett's collection, labeled September 21, 1889.

171. **Cyanospiza cyanea.** INDIGO BUNTING.

Of regular occurrence as a summer resident, although not common. May 9 was the date of its appearance in 1894 (Bacon). Curiously enough, we did not meet with this species on the Peninsula in 1900, although the locality seems an ideal one for its presence.

172. **Spiza americana.** BLACK-THROATED BUNTING.

This species is admitted to the list on the strength of the following note, contributed by Mr. Bacon: "On several occasions I have seen and heard a bird that I have identified as this species, which is therefore to be counted a rare summer resident. June 9, 1895, I saw one singing and heard two others."

173. **Piranga erythromelas.** SCARLET TANAGER.

Tolerably common as a summer resident, frequenting the wooded portions of the Peninsula and mainland. It arrived May 8 in 1900, and reached the height of its abundance May 20. In the fall the last (and only one) was seen September 26. These dates are probably a fair average index of the arrival and departure of the species. Several nests have been found by Mr. A. M. Howes in the woodland along the bluff facing the lake, west of the city. In every case they were built on the horizontal branches of hemlock trees in deep woods, and May 30 usually found the sets complete.

174. **Progne subis.** PURPLE MARTIN.

"A summer resident, nesting commonly in the city limits in boxes provided for the purpose. Observed dates of first appearance are April 15, 1892, and April 13, 1893." (Bacon.) It is seldom seen on the Peninsula. A female was taken there May 29, 1900, and in the fall migration two birds were observed August 24.

175. **Petrochelidon lunifrons.** CLIFF SWALLOW.

In suitable situations on the mainland this species is a rather common summer resident, but on the Peninsula it occurs only during the migrations. It was quite numerous in the vicinity of Big Pond on April 24 and 25, 1900, in company with other swallows. In 1902 Mr. Simpson noted it first on April 26.

176. **Hirundo erythrogaster.** BARN SWALLOW.

Like the last a common summer resident on the mainland, but found on the Peninsula only during the spring and fall migrations. Mr.

Simpson reported it in 1902 on April 26. In the spring of 1900 it was first noted April 25, as a prominent component of a considerable flock of swallows observed near Big Pond. In the fall August 24 and 25 were days of considerable movement, and it was recorded thereafter at intervals until as late as September 18. An immature specimen taken by Mr. Bacon July 25, 1895 (now in the National Museum, Biological Survey Collection), is an almost perfect albino, showing on the upper parts merely a light wash of rusty.

177. **Iridoprocne bicolor.** White-bellied Swallow.

This hardy swallow was the first to put in an appearance in the spring of 1900, arriving as early as April 9, and soon becoming numerous, frequenting the bay and ponds in search of its insect prey. Usually several birds were observed together, and on April 24 and 25 a considerable number were found flocking in the vicinity of Big Pond, accompanied by three other species of swallows. While it is quite probable that this species breeds on the Peninsula occasionally, the evidence is inconclusive. It was noted as late as May 19, however, and was present in the fall movement August 21, although the last individual of the season was not observed until September 21, a month later. Conclusive evidence of the nesting of the present species in this locality is afforded by Mr. A. M. Howes, who states that on June 7, 1893, he took *seven* eggs from a bird-box in the rear of his home in the city. Three birds were seen, and from the fact that on two consecutive days two eggs were laid he thinks that the male must have been a bigamist.

178. **Riparia riparia.** Bank Swallow.

A common summer resident, very plentiful in certain favorable localities. It was first noted in the spring of 1900 on April 25, as the least numerous of the flock of swallows seen near Big Pond on that day. On May 28 a nesting colony on the mainland a few miles west of the city was visited, where perhaps five hundred pairs were breeding. Their burrows were excavated in the sandy banks of a deep ravine leading to the lake shore, usually near the top, and in certain favorable spots the face of the bluff was very thickly punctured indeed, while the birds coming and going and hovering in the air were a pretty sight. Apparently no eggs were laid at this time, although no nests were actually examined. Some of the birds were seen carrying in nesting material, however. As a rule the birds entered their holes in pairs, but in more

than one case three individuals were seen to enter the same opening in rapid succession. Of ten specimens shot indiscriminately all but one proved to be males. Mr. Simpson's first record for this swallow in 1902 was for April 26.

179. **Stelgidopteryx serripennis.** ROUGH-WINGED SWALLOW.

According to Mr. Simpson, some were seen with other swallows during the storm of April 26, 1902. Whether these birds were blown out of their course, or whether the species is an occasional summer resident here can only be conjectured.

[*Ampelis garrulus.* NORTHERN WAXWING.

Here, if anywhere in the State, should this species be detected as a casual winter visitant.]

180. **Ampelis cedrorum.** CEDAR WAXWING.

A permanent resident the year round, nesting in every orchard. When seen in winter it is in good-sized flocks, haunting mountain-ash trees. Such flocks have been rather rare, however, Mr. Bacon adds, in the last five years. On the Peninsula it is quite numerous, and is often seen about wild cherry trees in the fall months.

181. **Lanius borealis.** NORTHERN SHRIKE.

"A winter resident, but more apt to be met with in late fall and early spring than through the colder months. I scarcely ever see more than a half dozen in any one year. It has been recorded upon the following dates in winter: February 5, 1888; December 24, 1893; January 21, 1894. September 21, 1892, is my earliest fall record, and March 18, 1893, the latest date in spring." (Bacon.)

182. **Lanius ludovicianus migrans.** MIGRANT SHRIKE.

Lanius ludovicianus migrans, WM. PALMER, Auk, XV, 1898, 248.

One of the characteristic birds of this region, where it is a common summer resident on the mainland, and occasional during migrations on the Peninsula, where, in 1900, it was first seen April 3, while single birds, presumably of this species, were noted October 13, 17, and 18. Mr. Bacon says that it starts nest-building immediately upon its arrival, and that he has found the eggs as early as April 15 (1890). Mr. A. M. Howes reports having secured three sets of six eggs each on April 21, 1900. Dr. Warren gives a detailed account (*Birds of Pennsylvania*, 1890, 261–262) of the nesting of this species here as observed by Mr. Sennett and himself on May 20 and 21, 1889, at which date most of the nests contained young. The nests are almost invariably built in thorn or wild crab-apple trees in more or less open

situations. The following note on the feeding habits of this species is contributed by Mr. Bacon: "In the summer of 1886 I saw one of these shrikes kill a Yellow Warbler, and on May 10, 1891, I saw a White-throated Sparrow impaled on a thorn, with a shrike perched near by, so that it would seem that occasionally this species preys upon small birds as does the Northern Shrike."

183. **Vireo olivaceus.** RED-EYED VIREO.

Very abundant as a summer resident, more numerous, indeed, than ever observed elsewhere by the writer, and perhaps the most common and generally distributed small bird on the Peninsula, frequenting the woodland and shrubbery. It was first recorded in 1900 on May 12, becoming common a few days later, and not disappearing until September 27. Many old nests were observed. Mr. Bacon says it often nests in the shade trees in the city.

184. **Vireo philadelphicus.** PHILADELPHIA VIREO.

Fairly numerous as a transient visitant in spring and fall, having been observed in the former season, in 1900, at dates ranging from May 14 to 23, and in the latter from September 6 to 25. Its favorite haunts were bushes and shrubbery, where its deliberate motions distinguished it from the warblers, with which it was wont to associate, and its brighter colors and smaller size from the more common Red-eyed Vireo. It could be approached very closely, manifesting no fear. Its song was not heard.

185. **Vireo gilvus.** WARBLING VIREO.

Probably occurs as a summer resident on the mainland, perhaps nesting in the shade trees in the city, where it was noted on May 12, 1900. It was observed on the Peninsula in the fall only, on September 1 and 12. Mr. Sennett has a specimen taken as late as September 21 (1888).

186. **Vireo flavifrons.** YELLOW-THROATED VIREO.

Doubtless a summer resident, but not very common. One shot May 4 was the first of the season in 1900, and the only one observed by us on the Peninsula. On May 28 a number were seen in a strip of woods along the lake shore near the "Head," where they were apparently settled for the season. In 1892 Mr. Bacon noted two specimens on May 1.

187. **Vireo solitarius.** BLUE-HEADED VIREO.

A transient visitant, not common. In 1900 it was detected only in the fall migration. One was taken in shrubbery along the board-walk September 27, and another was seen in a similar situation October 1. Mr. Simpson reports having met with it on April 26, 1902.

[*Vireo noveboracensis.* WHITE-EYED VIREO.

This vireo is exceedingly rare throughout western Pennsylvania. The writer has never met with it anywhere in this section, but it is as apt to occur at Erie as elsewhere in the region. It is said to be fairly common at Jefferson, Ashtabula County, Ohio (Jones, *Birds of Ohio*, 1903, 171).]

188. **Mniotilta varia.** BLACK AND WHITE WARBLER.

Although not actually observed during the breeding season proper, there can be no doubt that this species is a summer resident, not, however, very common. In 1900 it was noted first on April 28, and the last was recorded September 21. Mr. Bacon has taken specimens on May 1, 1892 and 1894, and Mr. Simpson shot one April 26, 1902.

[*Helminthophila pinus.* BLUE-WINGED YELLOW WARBLER.

Dr. Warren speaks of having met with this warbler in summer in Erie County (*Birds of Pennsylvania*, 1890, 276), but the exact locality is not stated, and the record cannot therefore be used. Moreover, in the absence of specimens it would seem as if the record were open to doubt. This is one of the very rarest warblers in western Pennsylvania, and that it should breed so far north as Erie County seems highly improbable.

Helminthophila chrysoptera. BLUE GOLDEN-WINGED WARBLER.

It was surprising not to meet with this warbler at Erie, in view of its comparative abundance in the western part of the State in general. Doubtless future observations will discover its presence.]

189. **Helminthophila rubricapilla.** NASHVILLE WARBLER.

A transient visitant, possibly not uncommon, although it has been definitely recorded but twice. Mr. Bacon secured two specimens May 9, 1892, and Mr. Simpson shot one along the board-walk September 27, 1902.

190. **Helminthophila celata.** ORANGE-CROWNED WARBLER.

One of the surprises connected with the work in this locality during 1900 was the discovery of this species—not an isolated record, as is usually the case in the Eastern United States, but several occurrences, seeming to indicate that it is a regular although uncommon fall migrant. It was first brought to light by Mr. Simpson, who secured a specimen near Big Pond on September 15. On October 6 one was observed

just east of Niagara Pond, which eluded capture, but later in the day a fine adult was seen and shot along the board-walk. It was skipping about in the tops of the bushes, very active in its movements, and easily distinguishable from the hordes of Yellow-rumped Warblers that were migrating at the same time. Another was observed October 8, and two more, one of which was taken, on October 10. If it be permissible to draw a conclusion from such meagre data, it would seem that the present species is one of the later migrants among the warblers.

199. **Helminthophila peregrina.** Tennessee Warbler.

Recorded as a rather uncommon migrant in the spring of 1900, when it was observed on May 21, 22, and 23, one or two individuals on each day. It kept high up in the terminal foliage of the trees in woodland, where, being so deliberate in its movements, it was difficult to discern, although its song, so penetrating and distinctive, was invariably a sure clue to its presence.

192. **Compsothlypis americana.** Parula Warbler.

Probably a summer resident species. In 1900 it was first observed at the surprisingly early date of April 19, when a single bird was taken on the wooded ridge southeast of the city, accompanied by chickadees, nuthatches, kinglets, and the like. No others were seen until April 30, while by May 4 it was recorded as rather common on the Peninsula. May 28 it was found in a tract of hemlocks along the lake front a few miles west of the city, seemingly settled for the season, and, indeed, there is no reason why it should not be a regular summer resident in such places, here as farther south. The time of its departure is indicated by a specimen in Mr. Sennett's collection bearing date of October 3, 1875. Mr. Bacon notes two specimens taken May 2, 1891. The two examples secured by us (April 19 and 30), although doubtless transient individuals, are considered by Mr. Harry C. Oberholser to be indistinguishable from the true *Compsothlypis americana*.

193. **Dendroica tigrina.** Cape May Warbler.

Occurs as a rare spring and fall transient visitant. Two specimens were secured, both in shrubbery north of Misery Bay, a female May 16, and a male September 12. Mr. Simpson took a female along the board-walk September 27, 1902. There are also two specimens in Mr. Sennett's collection, a male labeled May 13, 1890, and an immature male September 22, 1888.

194. **Dendroica æstiva.** YELLOW WARBLER.

Abundant as a summer resident, especially on the Peninsula, finding congenial haunts in the many tracts of bushes and low shrubbery. Mr. Simpson noted it in 1902 on April 26, but in 1900 the first was observed April 30, and the next day it was common and musical. Several nests were found the latter part of May, some containing eggs. It was last seen August 31, being thus among the earliest species to leave for the south.

195. **Dendroica cærulescens.** BLACK-THROATED BLUE WARBLER.

A spring and fall migrant, not very common, frequenting the shrubby and wooded growths on the Peninsula, doubtless on the mainland also. The first came May 7 in 1900, and it was seen at intervals up to May 18. In the fall its migration was not so hurried, as it extended from September 6 up to as late as October 2. It was if anything more numerous at the latter season. Mr. Bacon's earliest spring note is May 7 (1893) — the same as our own — while Mr. Sennett's collection contains specimens taken as late in the month as May 18 (1889) and 20 (1875). The second and third week in May include practically all the available spring records.

196. **Dendroica coronata.** YELLOW-RUMPED WARBLER.

A common winter resident and abundant transient. We were somewhat surprised to meet with this warbler in considerable numbers at the commencement of our work (March 21), associated with Black-capped Chickadees and Golden-crowned Kinglets, haunting the growth of pines and shrubbery near the north lighthouse, where there was shelter from the wind. They proved unusually shy and difficult to obtain, but such specimens as were secured were just entering upon the prenuptial moult, and their fat was of a peculiar consistence, evidently derived from the wax of the bayberry (*Myrica Carolinensis*), which abounded in the locality, and upon which the birds were doubtless subsisting. There can be no reasonable doubt that they pass the entire winter here, where there is such protection from the weather and such a plentiful supply of food. The influx of transient individuals from the south did not begin until about April 28, and the bulk passed through the first week in May, when they were the most numerous of the non-breeding warblers. None were seen after May 15. In the fall they reappeared September 18, becoming common in about a week, thronging the shrubbery and bushes, and outnumbering

every other warbler, even the Black-poll. This migration came to an end in October, when the species was left in its normal numbers for the winter, being recorded up to November 17. Additional migration dates culled from specimens in Mr. Sennett's collection are May 14, 1875, and September 20, 1888.

197. **Dendroica maculosa.** Black and Yellow Warbler.

Presumably a summer resident, if not on the Peninsula, then in the hemlock woods of the lake shore bluff, where the conditions are seemingly favorable. However, it has been detected only during the migrations, spring and fall, having been rather more numerous at the latter season in 1900. May 15 was the apparent date of its vernal arrival, and none were seen later than May 25. May 8, 1875, is the date of an example in Mr. Sennett's collection. In the fall it was observed as early as August 30, soon reaching the height of its abundance, and lingering until October 1. It is an inhabitant of the woodland and shrubbery during its stay.

[*Dendroica cerulea.* Cerulean Warbler.

This species may occur at Erie, as it has been found both to the west and east, in Ohio and New York (compare Jones, *Birds of Ohio*, 1903, 180–181, and Davison, Auk, V, 1888, 430). Farther south in Pennsylvania it is a common summer resident (Todd, Auk, VIII, 1891, 238).]

198. **Dendroica pensylvanica.** Chestnut-sided Warbler.

A summer resident species, moderately common on the Peninsula in the scrub growth to which it is so partial in the breeding season. It was first observed in 1900 on May 12, and noted at frequent intervals during the remainder of the month. In the fall, however, it was recorded but once, an immature example having been taken on September 14. It was observed also in June, 1897. Following are some of Mr. Bacon's dates for the migration of this species: May 12, 1891, May 14, 1892, May 13, 1893. Mr. Simpson saw one as early, however, as April 26, 1902.

199. **Dendroica castanea.** Bay-breasted Warbler.

One of the rarer migrants, detected in 1900 in the spring only, single specimens having been taken on May 14, 18, and 21, all in the wooded growth north of Misery Bay.

200. **Dendroica striata.** Black-poll Warbler.

Occurs as a transient visitant, common in the spring, more abundant in the fall. At the former season it is among the last of the warblers to migrate, not appearing (in 1900) until May 14, while it was still

present on May 31, when our spring observations were concluded. It reappeared August 30, and doubtless remained well through October, although on this point data are unfortunately lacking. For a time at this season it was the most numerous of the warblers, but later was perhaps exceeded in number by the Yellow-rumped Warbler. Mr. Sennett's collection contains one specimen taken October 11, 1878; doubtless, however, the species often remains somewhat later in the fall.

201. **Dendroica blackburniæ.** BLACKBURNIAN WARBLER.

This dainty warbler occurs in moderate numbers during the migrations in spring and fall, being perhaps most numerous at the former season in 1900, when it arrived May 7, and was seen at intervals up to May 22. In the autumnal movement it was the earliest warbler to appear, coming August 21, and being noted several times thereafter until the end of that month, while the last was observed as late as October 2. It is more partial to high woods than some of the other warblers, rarely descending close to the ground. May 10, 1875, is the date of a specimen in Mr. Sennett's collection.

202. **Dendroica virens.** BLACK-THROATED GREEN WARBLER.

Probably breeds in the coniferous woods of both the Peninsula and the mainland, as is the case farther south, but all our notes seem to refer to transient individuals. It was recorded at the remarkably early date of April 19, when a single one was seen and secured on the wooded ridge southeast of the city, in a flight of Black-capped Chickadees, Golden-crowned Kinglets, Snowbirds, and the like. It was not again observed until April 30, but was seen subsequently at intervals, the last on May 21. In the autumnal migration the first record referred to a bird picked up August 24 on the outside beach, perhaps exhausted and drowned in attempting to cross the lake. September 14 the next was seen, and the last not until October 8. Mr. Simpson notes that a few came in on April 26, 1902, with the big storm. Other dates are May 21, 1894 (Bacon); May 9, 20, and September 16, 1875 (Sennett).

[*Dendroica kirtlandii.* KIRTLAND'S WARBLER.

One of the very rarest of the warblers, which should, however, occur at Erie, if anywhere in Pennsylvania. Cleveland, Ohio, is the type locality, and there are numerous Ohio and Michigan records. It has within the last year been found breeding in northern Michigan. (See Wood, *Bulletin Michigan Ornithological Club*, V, 1904, 3–13.)]

203. **Dendroica vigorsii.** Pine Warbler.

"Mr. Sennett has observed this bird in the Crawford-Erie district only as a spring and fall migrant." (Warren, *Birds of Pennsylvania*, 1890, 291.) This statement is borne out by two specific records. Mr. Bacon shot one specimen April 28, 1892, and on April 24, 1900, we secured a single bird in the high woods north of Long Pond. It seems to be rare everywhere in western Pennsylvania where there are no tracts of its favorite red or yellow pines.

204. **Dendroica palmarum.** Palm Warbler.

Rather common on the Peninsula in 1900 as a spring and fall transient, frequenting the shrubbery, low bushes in open places, and even the margins of the ponds, strikingly resembling certain species of sparrows in its habits. It came on April 30, was common for a few days only, and disappeared May 7. In the fall migration it was present for a much longer period — September 4 to October 4, and possibly still later. Mr. Bacon observed it in 1891 from May 1 to 12, and two specimens dated September 30, 1888, are in Mr. Sennett's series.

[*Dendroica discolor.* Prairie Warbler.

"In Erie and Crawford Counties Mr. Sennett has found the Prairie Warbler as a rare spring and autumnal visitor." (Warren, *Birds of Pennsylvania*, 1890, 293). This statement, although in all probability true, is too indeterminate as to the exact locality to be admitted here, especially as it is unsupported by specimens. Dr. Kirtland states that this species breeds regularly in the vicinity of Cleveland (*American Journal Science and Arts*, Second Series, XIII, 1852, 218), and Audubon gives Lake Erie as its northern limit in the interior (*Ornithological Biography*, II, 1834, 68). It is a rare species in western Pennsylvania.]

205. **Seiurus aurocapillus.** Golden-crowned Thrush.

A summer resident in this general region, but strangely enough not recorded as such on the Peninsula, where it was met with on but two occasions in 1900, May 14 and October 4, a single bird in each case. Mr. Simpson saw two individuals here on April 26, 1902. Mr. Bacon gives it as taken on May 1, 1894, May 4, 1892, and September 15, 1891.

206. **Seiurus noveboracensis.** Water-thrush.

The arrival of this species was noted in 1900 on May 8, one being seen at the mouth of Mill Creek. A few days later it was observed on the Peninsula, in the dense growth of bushes at the lower end of Ridge Pond, where a specimen was taken May 17. Although at least one

pair seemed to be settled here for the season, the species is known to migrate so late that further data are requisite to decide its exact seasonal status. In the fall it was observed by us on August 22 and 23, and Mr. Simpson reported it in September, as well as in September of 1902. Mr. Bacon's only specimen was taken May 11, 1894.

207. **Geothlypis agilis.** CONNECTICUT WARBLER.

One of the rare transient visitants, bringing up the rear of the warbler migration in the spring. A bird believed to have been of this species was heard singing in thick undergrowth May 22, 1900, but eluded capture. A specimen was taken in some low brush along the marsh near the western end of the bay on May 25, its song having first attracted attention. May 29 a third individual was met with in a dense growth of bushes along the board-walk, but successfully evaded an attempt at capture which lasted almost two hours, keeping so well concealed that we got but one or two glimpses of it, although within only a few feet, as evidenced by its singing. The song of this warbler is quite loud and clear, and bears a striking resemblance to those of the Mourning and Kentucky Warblers, but has a peculiar explosive quality heard to some extent in the notes of the Canadian Warbler and Water-thrush. It is susceptible of three or four variations, but perfectly distinctive. There are two fall records: a specimen taken at the head of Niagara Pond September 21, and a single bird noted in the bushes along Ridge Pond September 24. Dr. Warren speaks of having taken the species here in September, and that Mr. Sennett considers it an uncommon migrant (*Birds of Pennsylvania*, 1890, 297).

208. **Geothlypis philadelphia.** MOURNING WARBLER.

Occurs as a rare migrant, detected in the spring only. One was noted in the thick woods west of Graveyard Pond on May 22, 1900, but eluded capture. Mr. Sennett's collection contains one female, shot on the Peninsula June 4, 1875—a late spring record.

209. **Geothlypis trichas brachidactyla.** NORTHERN YELLOW-THROAT.

An abundant summer resident on the Peninsula, where it is a characteristic inhabitant of the bushes and shrubbery surrounding the ponds, and it is noted also on the mainland. May 4 was the date of its vernal appearance in 1900, and by May 14 it had become common. It was particularly numerous and conspicuous in the fall, in August and September, leaving by September 27, although a single stray

specimen was taken as late as October 13. Other late fall records are October 1, 1875 (Sennett), and September 27, 1902 (Simpson). In 1893 Mr. Bacon saw it first on May 6, and on June 8, 1892, he found a nest with four eggs.

210. **Icteria virens.** Yellow-breasted Chat.

Audubon, who landed at Presque Isle late in August, 1824, (*Ornithological Biography*, I, 1831, 182–185), is responsible for the first record of the Yellow-breasted Chat at this locality, as he says that it extends "as far as the borders of Lake Erie in Pennsylvania" (*ibid.*, II, 1834, 223). Although not a few of Audubon's statements have never been confirmed, and some of them are certainly errors, in the present case the correctness of his observations has been demonstrated after a lapse of seventy-five years. The writer found this species June 27, 1899, in a tract of shrubbery at the foot of Yellow Bass Pond, and one was noted near Misery Bay on May 14 in 1900. It is evidently a rare summer resident so far north.

211. **Wilsonia mitrata.** Hooded Warbler.

The Hooded Warbler was met with May 28 in considerable numbers and to all appearances settled for the season in a tract of rich woodland along the lake front a few miles west of Erie, and a male was secured. This would indicate that it is a not uncommon summer resident in suitable situations on the mainland, although not noted at all on the Peninsula. Mr. Sennett gives it as breeding in Erie County (Warren, *Birds of Pennsylvania*, 1890, 300), and Mr. Bacon had a specimen brought him May 9, 1901, which date probably indicates the time of its vernal arrival.

212. **Wilsonia pusilla.** Black-capped Warbler.

A transient visitant, apparently not common, at least in the spring of 1900, at which season it was detected on but two occasions, May 19 and 24. Upon its return in the fall it was first noted August 30, and occasionally thereafter until September 21. It was always met with low down, in bushes or thick shruberry. May 25, 1889, is the date of the only specimen of this species in Mr. Sennett's collection.

213. **Wilsonia canadensis.** Canadian Warbler.

Another transient species, not very common, having been found from May 17 to 24, 1900, frequenting shrubbery. Mr. Bacon records one specimen taken May 18, 1893, and Mr. Simpson mentions having met with it in September, 1900, although it was not observed by us at that season.

214. **Setophaga ruticilla.** AMERICAN REDSTART.

Common as a summer resident in the wooded portions of both the mainland and Peninsula. "In 1892 its arrival was noted May 4, and on June 6 of the same year several nests containing eggs were found." (Bacon.) In 1900 the first birds were observed on May 12, and on May 19 a large flight was encountered in the high woods north of Long Pond. May 28 it was found to be very numerous in the woodland along the lake bluff, a few miles west of the city. September 26 was the last date upon which it was recorded in the fall.

215. **Anthus pensilvanicus.** AMERICAN TITLARK.

Fairly common as a transient visitant, especially in the fall. It frequents the muddy flats at the mouth of Mill Creek, the outside beach, or occasionally the shores of the bay. Mr. Bacon has met with it also in certain barren fields at the western end of Erie County. In the season of 1900 May 9 was the date of its observed arrival, May 10 two were seen and secured, and May 12 a small flock was observed passing northward, these notes comprising the full spring record. The fall notes were as follows: first, September 8; common September 13; and last, November 15, with numerous intermediate records. According to Mr. Bacon flocks of at least fifty birds are quite frequently seen, but we did not meet with any so large as this during our stay.

216. **Galeoscoptes carolinensis.** CATBIRD.

Very common as a summer resident, especially on the Peninsula, finding congenial haunts in the tracts of bushes and shrubbery which abound. Mr. Bacon notes its arrival about April 30 (1893) or May 1 (1892). In 1900 the first was seen May 2, and the last one in the fall on October 8.

217. **Toxostoma rufum.** BROWN THRASHER.

Also a summer resident, but not so common as the Catbird, although frequenting the same situations. It makes its appearance the latter part of April (April 28, 1892; April 26, 1893, Bacon), and in the fall of 1900 it was last seen October 6.

218. **Thryothorus ludovicianus.** CAROLINA WREN.

"In 1898, on April 18, 19, and 23, I heard the loud notes of a wren that was new to me, and on the first occasion caught sight of the bird itself. Although I was unable to secure it, there is no doubt that it belonged to this species." The above note, contributed by Mr.

Bacon, is the only record for this relatively southern species so far north in Pennsylvania, and its seasonable status is quite uncertain. Farther east along the lake shore it has been recorded but once, from near Buffalo, N. Y. (Savage, *Auk*, XII, 1895, 314).

219. **Troglodytes aëdon.** House Wren.

Rather common as a summer resident, not only on the Peninsula, but even in the city itself, where it often nests, while nearly every farmhouse has a pair breeding in its immediate vicinity. On May 30, 1900, a nest with six fresh eggs was found, built in the deserted hole of a woodpecker in a stub close to the board-walk, the shrubbery along which was a favorite haunt of the species at all times during its stay. Its arrival has been observed by Mr. Bacon about the first of May (April 30, 1893; May 3, 1892), and in 1900 October 3 was the latest fall date. Mr. Sennett writes entertainingly (*Auk*, VI, 1889, 76) of a nest found by himself and Dr. B. H. Warren on August 1, 1888, which was built in a kingfisher's hole in a sand-bank, and contained young birds.

220. **Olbiorchilus hiemalis.** Winter Wren.

Of moderately common occurrence during the spring and fall migrations, and occasionally in winter also. Mr. Bacon has seen it on January 1, February 2 and February 22, 1892. Its first and last recorded occurrences in the spring of 1900 were respectively April 9 and May 10. In the fall it was noted only on October 10 and 11. Mr. Sennett's collection contained examples taken October 27 and 29, 1888.

221. **Cistothorus stellaris.** Short-billed Marsh Wren.

This comparatively little known species was noted on but one occasion, May 17, 1900, when a single female was shot by Mr. Worthington at the head of Yellow Bass Pond, having been flushed from a growth of low weeds and bushes near the water's edge. It is probably to be set down as a rare summer resident.

222. **Telmatodytes palustris.** Long-billed Marsh Wren.

In the marshes of the Peninsula this interesting species is an abundant summer resident. By the writer it was first met with in June, 1899, about Yellow Bass and Niagara Ponds, when a number of specimens were collected and several new (but empty) nests discovered. In 1900 it was first observed April 30, becoming common May 9. May 23 several unfinished nests were found, and on May 31 a set of six eggs was collected from a nest in Niagara Pond, a favorite haunt

of the species, from the extensive tracts of rushes and marsh grasses in which it delights. It was also encountered in the marshes along the bay shore at the western part of the Peninsula, and at the mouth of Mill Creek, but was not found about Long or Cranberry Ponds, the conditions there not being favorable. During the migrations it is said to occur occasionally on the mainland. October 6 was the latest fall date on record, although it may possibly have stayed somewhat longer. In 1893 it was first seen on May 3 (Bacon).

223. **Certhia familiaris americana.** BROWN CREEPER.

A fairly common migrant in spring and fall, and in all probability a winter resident in small numbers. Mr. Sennett is quoted as saying that it is sometimes seen during mild winters (Warren, *Birds of Pennsylvania*, 1890, 314). It has been found in migration in early April (April 8, 1875, Sennett; April 8, 1893, Bacon), but none were noticed in 1900 until April 18, while on April 24 a flight was encountered in the high woods north of Long Pond. There were dozens of them in the trees, their faint chirps being heard on every hand, and some were even singing. May 7 the last was seen. In the fall September 14 was the first date, and October 16 the last, although the species doubtless remained later, as above intimated.

224. **Sitta carolinensis.** WHITE-BREASTED NUTHATCH.

A permanent resident, well represented at all seasons of the year, frequenting the wooded portions of the mainland and Peninsula, often in company with other species of like haunts and habits.

225. **Sitta canadensis.** RED-BREASTED NUTHATCH.

Fairly common, according to our observations, during the spring migration, less numerous in the fall. April 19, 1900, one was shot on the wooded ridge southeast of the city, but none were noted on the Peninsula until May 2. It was observed as late as May 19, almost justifying the suspicion that it breeds. In the fall it was recorded on September 20, 21, and 26. It was met with in the woodland, often quite low down, and usually accompanied by such birds as kinglets, chickadees, Brown Creepers and warblers. Other observers seem to have found it rather common in the fall. Thus, Dr. Warren mentions having found this species "quite plentiful in October and the early part of November [1889] in Erie county." (*Birds of Pennsylvania*, 1890, 316.) There are specimens in Mr. Sennett's collection taken at intervals from September 22 to October 29, 1888.

226. **Bæolophus bicolor.** Tufted Titmouse.

A rare straggler, wandering northward in the winter from its usual habitat. There are three specimens in Mr. Sennett's collection, two of which are labeled December 18, 1874, the third December 20, 1874 — possibly an error for the earlier date, since it is stated that this was the only occasion upon which the species had been met with here. These were taken, it is said, from a flock of a dozen or more, on the bluff at the head of the bay. Doubtless this occurrence is the basis of the very indefinite statement of Dr. Warren, "This species is seldom seen in Erie county" (*Birds of Pennsylvania*, 1890, 318).

227. **Parus atricapillus.** Black-capped Chickadee.

A common resident, found in scattered companies except in the nesting season, associated with other species of similar haunts and habits. It was to be met with at all times in the shrubbery along the board-walk, where a nest was discovered in a small dead stub, about five feet from the ground, from which six incubated eggs were secured on May 19, 1900. In the fall it is conspicuous in the van of the flights of warblers.

228. **Regulus satrapa.** Golden-crowned Kinglet.

This species doubtless remains through the winter in small numbers, as it was found in both March and November in the sheltered woodland of the interior of the Peninsula. During the migrations it is very numerous, the spring flights occurring (in 1900) from April 17 to 30. In the fall the first was seen September 25, and it became common in October, resuming its winter numbers the latter part of that month. September 29, 1888, is the earliest fall record afforded by Mr. Sennett's series.

229. **Regulus calendula.** Ruby-crowned Kinglet.

A spring and fall transient visitor, quite common, according to our experience in 1900. It was recorded first in the spring on April 21, and was last seen May 12. In the fall its migratory movement lasted a full month, from September 18 to October 18. It was very often found in company with the Golden-crowned Kinglet, and associated with warblers of various kinds. It was in full song upon its arrival in the spring. An additional fall record is September 22, 1888 (Sennett).

230. **Polioptila cærulea.** BLUE-GRAY GNATCATCHER.

The status of this species here is uncertain. The only record is of an individual seen and secured on August 25, 1900. It is not known to breed so far north in Pennsylvania, and the bird taken may have been migrating, and strayed out of its range.

231. **Hylocichla mustelina.** WOOD THRUSH.

Common, according to Mr. Bacon, as a summer resident, and the best known of the small thrushes. This observation, however, must refer to the mainland only, as we did not find the species on the Peninsula at all, and our only record is of several seen May 28 in woodland along the lake shore bluff, a few miles west of the city limits.

232. **Hylocichla fuscescens.** WILSON'S THRUSH.

Occurs as a moderately common summer resident, frequenting the woodland and shrubbery, particularly along the board-walk. Its arrival was noted May 10, 1900, and on May 26 a nest with four fresh eggs was discovered, built on the ground in the woods, in an open place among the dry leaves. May 11, 1875, is the date of the only specimen in Mr. Sennett's collection.

233. **Hylocichla aliciæ.** GRAY-CHEEKED THRUSH.

This species was found to be of common occurrence as a migrant in the fall of 1900, arriving September 18, and at once becoming numerous, vying in abundance with the Olive-backed Thrush, with which it was closely associated during its stay. Although the two species are so similar in coloration, haunts, and habits, the Gray-cheeked may always be readily distinguished from the other by its call-note, which is more prolonged, quite different from the short, low "chuck" of the Olive-backed. In addition it was often heard to offer a variety of other notes, perhaps snatches from its song, which greatly resembled those of the Wilson's Thrush. By the end of September the present species had diminished in numbers, and by October 6 the last had gone. The only spring record is afforded by a specimen in Mr. Sennett's collection, taken May 13, 1875.

234. **Hylocichla ustulata swainsonii.** OLIVE-BACKED THRUSH.

A transient visitant, only tolerably common in the spring, but much more so in the fall, according to our experience in 1900. May 17 marked its vernal appearance, and May 26 its departure. During this interval it was frequently heard singing. In the fall the earliest and latest dates were respectively September 18 and October 3, thus coincid-

ing closely with the migration period of the last species. It was particularly numerous in the shrubbery along the board-walk. Mr. Sennett took specimens of this thrush on May 21, 1875, and September 21, 1889; Mr. Bacon secured one September 21, 1901.

235. **Hylocichla guttata pallasii.** Hermit Thrush.

The Hermit Thrush occurs as a transient visitant only, apparently uncommon in the spring, but quite plentiful in the fall. It migrates earlier in the spring and later in the fall than the other thrushes. April 11, 1875, the date of a specimen in Mr. Sennett's collection, seems to be the earliest spring record available. Mr. Simpson saw several April 26, 1902. Mr. Bacon has secured specimens April 29, 1892, April 30, 1893, and May 2, 1891—the latest spring date. A specimen taken April 24, in deep woods north of Long Pond, was the only specimen noted in 1900. In the fall it arrived and was common on October 3, when the Gray-cheeked and Olive-backed Thrushes were leaving, and remained at least until October 20. At this season it was found mostly in dense covert of bushes and evergreens, usually in scattering companies, silent save for a low call-note. October 7, 1894 (Bacon), and October 26, 1889 (Sennett), are additional fall records.

236. **Merula migratoria.** Robin.

This abundant and familiar bird is a summer resident on both the mainland and Peninsula. Mr. Bacon states that an occasional individual remains through the winter, but that it ordinarily arrives the second week in March, sometimes a little later, March 9, 1892, being the earliest record. Although it was already present in numbers the latter part of March, 1900, when our observations began, it was observed in flocks, evidently migrating, as late as April 19. In the fall a small party was seen November 7, this being its last recorded occurrence of the season, although it has been noted by Mr. Bacon as late as November 29 (1894). Such birds as stay through the winter are generally seen about mountain-ash trees, the berries of which furnish an unfailing food supply (S. E. B[acon], *Oölogist*, Albion, N. Y., V, 1888, 60).

237. **Sialia sialis.** Bluebird.

"A summer resident, common, although never so numerous as the Robin, and never known to stay through the winter. I have noted it as early as February 22 (1888), but it usually arrives a little later,

about March 5 or 10. In the spring of 1895, however, which was memorable for the scarcity of Bluebirds throughout the country, the first was not noted until April 11, while up to May 25 but two pairs had been observed in all. The species has recovered its normal abundance since then, however." (Bacon.) In the spring of 1900 it was already present March 22, and doubtless arrived some time previously. Although repeatedly seen on the Peninsula, it is very doubtful if it breeds there, as it was never observed under circumstances that would justify such a belief.

BIBLIOGRAPHY.

The following list embraces the titles of only such papers and publications as contain information specifically stated to refer to the avifauna of this particular locality. Several articles have been published in the last few years which contain references to specimens in Mr. Sennett's collection, but unless it is definitely indicated that such specimens came from Erie the titles have been ruled out. Moreover, all papers have been excluded which merely quote or refer to notes originally published elsewhere. Very possibly some notes of more or less value, published in sportsmen's journals, etc., have escaped notice.

1834. AUDUBON, JOHN JAMES, *Ornithological Biography*, Volume II, Edinburgh, 1834.

Reference is made on page 223 to the occurrence of *Icteria virens* on the Pennsylvania shore of Lake Erie (see page 587).

1887. "A. A. A." The Snowy Owl in Erie County, Pa.—*Forest and Stream*, XXVIII, February 3, 1887, 24.

1888. B[ACON], S[AMUEL] E. [Notes on the Robin and English Sparrow at Erie, Pa.]—*Oölogist*, Albion, N. Y., V, 1888, 60.

1888. WARREN, B. H. *Report on the Birds of Pennsylvania*. Harrisburg, 1888, pp. 260.

The appendix (pages 229–249) contains a number of references to Erie County birds inserted on the authority of Mr. George B. Sennett.

1888. BACON, SAM[UEL] E. [Notes from Erie, Pa.]—*Oölogist*, Albion, N. Y., VI, 1889, 134.

1889. DWIGHT, JONATHAN, JR., Recording Secretary. [Abstract of Proceedings of the] Linnæan Society of New York.—*Auk*, VI, 1889, 196–204.

On page 198 four species of birds are stated to have been found at Erie by Mr. George B. Sennett—*Sterna* "*tschegrava*," "*Octocoris*" (sic) *alpestris praticola*, *Lanius ludovicianus* (*migrans*), and "*Ammodramys*" *savannarum passerinus*.

1889. SENNETT, GEORGE B. Troglodytes aëdon, House Wren, Breeding in a Sand Bank.—*Auk*, VI, 1889, 76. See page 589.

1890. DWIGHT, JONATHAN, JR. The Horned Larks of North America.—*Auk*, VII, 1890, 138–158.

Specimens from Erie in Mr. Sennett's series are mentioned on pages 142 and 145.

1890. SENNETT, GEORGE B. The King Eider (*Somateria spectabilis*) at Erie, Pennsylvania.—*Auk*, VII, 1890, 88–89.

1890. [MERRIAM, C. HART, Secretary]? Seventh Congress of the American Ornithologists' Union.—*Auk*, VII, 1890, 66–71.

"He [Mr. George B. Sennett] also called attention to a peculiar, dark-colored, and otherwise abnormal specimen of the Carolina Rail taken at Erie, Pennsylvania." (Page 71.)

1890. WARREN, B. H. Notes on Pennsylvania Birds.—*Forest and Stream*, XXXIV, February 13, 1890, 64.

"*Plectrophenax*" *nivalis* and *Calcarius lapponicus* at Erie, Pa., October and November, 1889.

1890. WARREN, B. H. *Report on the Birds of Pennsylvania*, Second Edition, Revised and Augmented. Harrisburg, 1890, pp. 434.

Scattered through the pages of this report are many notes on Erie birds inserted on the authority of Mr. George B. Sennett. As Mr. Sennett's original manuscripts were consumed with the rest of Dr. Warren's papers in the Capitol fire at Harrisburg in 1897, it is impossible to verify the references, some of which are unsupported by specimens in Mr. Sennett's collection, while others are too indefinite as to the exact locality meant to be utilized in the preparation of the present paper. However, as Mr. Sennett was known to be a careful observer, there would seem to be no good reason for discrediting his records published at second-hand, all other things being equal, and hence they have been taken at their face value, except as above mentioned. A few species have been included in the present list on the authority of these records alone, as specifically stated in every case.

1892. BACON, SAMUEL E. Old Squaw (Clangula hiemalis).—*Ornithologist and Oölogist*, XVII, 1892, 45. Quoted in full on page 524.

1892. CHAPMAN, FRANK M. A Preliminary Study of the Grackles of the Subgenus Quiscalus.—*Bulletin American Museum of Natural History*, IV, 1892, 1–20.

Contains several references to Mr. Sennett's Erie specimens of *Quiscalus quiscula æneus*.

1899. RHOADS, SAMUEL N. Notes on Some of the Rarer Birds of Western Pennsylvania.—*Auk*, XVI, 1899, 308–313.

Two specimens of *Ectopistes migratorius* from Erie County mentioned (page 310) as having been presented to the Carnegie Museum by Mr. George B. Sennett.

1900. CHAPMAN, FRANK M. A Study of the Genus Sturnella.—*Bulletin American Museum of Natural History*, XIII, December 31, 1900, 297–320.

Three specimens of *Sturnella magna* from Erie, Pa., listed.

1902. OBERHOLSER, HARRY C. A Review of the Larks of the genus Otocoris.—*Proceedings United States National Museum*, XXIV, 1902, 801–884.

Specimens of *Otocoris alpestris praticola* from Erie (in the Biological Survey series, collected by Samuel E. Bacon), are mentioned on page 828.

ADDENDA AND CORRIGENDA.

Since page-proof of the present paper has reached the author there has been published the "Thirteenth Supplement to the American Ornithologists' Union Check-List of North American Birds" (*Auk*, XXI, 1904, 411–424), wherein a number of the nomenclatural changes used by the writer are formally adopted, rendering the citation of references unnecessary in such cases.

Attention is also called to the following corrections and additions, noted too late for insertion in their proper places:

Page 494, 13th line from the top, insert asterisk before *Porzana carolina*.

Page 494, 5th line from bottom, for *Colaptes auratus* read *Colaptes auratus luteus*.

Page 502, under *Stercorarius parasiticus*, add: Mr. Bacon has informed the writer that on May 22, 1904, he observed a bird which he believed to have been of this species. "It was a handsome, spirited bird, falcon-like in its movements, and when noted was pursuing a Common Tern." The occurrence of this species so late in the season is indeed remarkable.

CARNEGIE MUSEUM,
July 14, 1904.